



FARMING REIMAGINED

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## Implement Possibilities

- 1) Grain Harvest Cart
  - a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT™ and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - l) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - m) No complex folding requirements for wide implements to go into transport mode.
  - n) 3-D mapping of grain bin/silo yard, top loading locations, unloading locations, obstacles, power lines.
  - o) Camera object sensing assistance for movement around obstacles.
  - p) Auto lift and lower and movement of grain auger or conveyor based on job planning.
  - q) Auto bin tracking of quantity, product type, field of origin, and location.
  - r) Grain storage capacity tracking.



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- s) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.
  - t) Tramline and controlled traffic planning.
  - u) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - v) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 2) Sprayer
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, sprayed portions of a field between DOT units.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for water downspout location, machine location, spray truck or fill location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Automatic control of headland nozzle.



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- o) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - p) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - q) Display of real time images or videos on remote tablet.
  - r) Autonomous and pre-programmed enviro-friendly rinse and/or cleanout procedure (on the go).
  - s) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - t) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - u) Topographic sensing and/or mapping with tilt sensors.
  - v) Automatic skew correction.
  - w) No complex folding requirements for wide implements to go into transport mode.
  - x) Camera object sensing assistance for movement around obstacles.
  - y) Tramline and controlled traffic planning.
  - z) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 3) Air Seeder/Drill
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, seeded portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, fill location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.



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- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) Display of real time images or videos on remote tablet.
  - p) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - q) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - r) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
  - s) Soil compaction mapping using on unit sensors.
  - t) Topographic sensing and/or mapping with tilt sensors.
  - u) Automatic skew correction.
  - v) No complex folding requirements for wide implements to go into transport mode.
  - w) Multi hybrid variable rate seeding and planting.
  - x) Camera object sensing assistance for movement around obstacles.
  - y) Tramline and controlled traffic planning.
  - z) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - aa) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - bb) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- 4) Land Roller
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, re-seeded portions of a field for delayed rolling.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - h) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - i) Display of real time images or videos on remote tablet.



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- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) Topographic sensing and/or mapping with tilt sensors.
  - l) Automatic skew correction.
  - m) GPS records of rock locations.
  - n) No complex folding requirements for wide implements to go into transport mode.
  - o) Multi hybrid variable rate seeding and planting.
  - p) Camera object sensing assistance for movement around obstacles.
  - q) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - r) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - s) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- 5) Row Crop Planter
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, fill location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.



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- p) Display of real time images or videos on remote tablet.
  - q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - s) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
  - t) Soil compaction mapping using on unit sensors.
  - u) Topographic sensing and/or mapping with tilt sensors.
  - v) Automatic skew correction.
  - w) No complex folding requirements for wide implements to go into transport mode.
  - x) Multi hybrid variable rate seeding and planting.
  - y) Camera object sensing assistance for movement around obstacles.
  - z) Tramline and controlled traffic planning.
  - aa) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - bb) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - cc) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- 6) Gravity Box Drill
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, fill site location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.



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- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - p) Display of real time images or videos on remote tablet.
  - q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
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  - v) Automatic skew correction.
  - w) No complex folding requirements for wide implements to go into transport mode.
  - x) Multi hybrid variable rate seeding and planting.
  - y) Camera object sensing assistance for movement around obstacles.
  - z) Tramline and controlled traffic planning.
  - aa) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - bb) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - cc) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- 7) Bin Filling Auger
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
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  - f) Machine to machine communication of go and no-go travel zones.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor



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and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.

- h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) No complex folding requirements for wide implements to go into transport mode.
  - m) 3-D mapping of grain bin/silo yard, top loading locations, unloading locations, obstacles, power lines.
  - n) Camera object sensing assistance for movement around obstacles.
  - o) Auto lift and lower and movement of grain auger or conveyor based on job planning.
  - p) Auto bin tracking of quantity, product type, field of origin, and location.
  - q) Grain storage capacity tracking.
  - r) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.
  - s) Bin to bin path planning.
  - t) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - u) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 8) Bin Unload Auger
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
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  - f) Machine to machine communication of go and no-go travel zones.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.



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- h) Camera guidance for auger downspout location, machine location, grain pile location, bin location, etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) No complex folding requirements for wide implements to go into transport mode.
  - m) 3-D mapping of grain bin/silo yard, top loading locations, unloading locations, obstacles, power lines.
  - n) Camera object sensing assistance for movement around obstacles.
  - o) Auto lift and lower and movement of grain auger or conveyor based on job planning.
  - p) Auto bin tracking of quantity, product type, field of origin, and location.
  - q) Grain storage capacity tracking.
  - r) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.
  - s) Bin to bin path planning.
  - t) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - u) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 9) Bin Fill Conveyor
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
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  - h) Camera guidance for auger downspout location, machine location, grain pile location, bin location etc.



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  - m) 3-D mapping of grain bin/silo yard, top loading locations, unloading locations, obstacles, power lines.
  - n) Camera object sensing assistance for movement around obstacles.
  - o) Auto lift and lower and movement of grain auger or conveyor based on job planning.
  - p) Auto bin tracking of quantity, product type, field of origin, and location.
  - q) Grain storage capacity tracking.
  - r) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.
  - s) Bin to bin path planning.
  - t) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - u) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 10) Bin Unload Conveyor
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, bin location etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.



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- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) No complex folding requirements for wide implements to go into transport mode.
- m) 3-D mapping of grain bin/silo yard, top loading locations, unloading locations, obstacles, power lines.
- n) Camera object sensing assistance for movement around obstacles.
- o) Auto lift and lower and movement of grain auger or conveyor based on job planning.
- p) Auto bin tracking of quantity, product type, field of origin, and location.
- q) Grain storage capacity tracking.
- r) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.
- s) Bin to bin path planning.
- t) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
- u) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 11) Vertical Tillage Disk

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field not requiring tillage.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- m) Soil compaction mapping using on unit sensors.
- n) Topographic sensing and/or mapping with tilt sensors.



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- o) Automatic skew correction.
- p) No complex folding requirements for wide implements to go into transport mode.
- q) Camera object sensing assistance for movement around obstacles.
- r) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 12) Grain Bagger

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain bag location(s), etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 13) Grain Bag Extractor

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



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and maneuvers. Activities may be switched back and forth between remote and autonomous control.

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain bag location(s), bale location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 14) Grain Vac

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between dot units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.



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- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, grain bag location(s), etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Camera object sensing assistance for movement around obstacles.
  - m) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - o) Auto adjust air inlet of grain vac to maximize efficiency.
- 15) Air Seeder or Planter Nurse Cart or Tender
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.



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- k) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - l) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Tramline and controlled traffic planning.
  - o) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 16) Sprayer Nurse Cart or Tender
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, sprayed portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - l) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Tramline and controlled traffic planning.
  - o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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17) Heavy Harrow with Optional Granular Applicator

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harrowed portions of a field for tender/nurse cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Topographic sensing and/or mapping with tilt sensors.
- t) Automatic skew correction.
- u) No complex folding requirements for wide implements to go into transport mode.
- v) Camera object sensing assistance for movement around obstacles.
- w) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- x) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.



## FARMING REIMAGINED

- y) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 18) Top Dressing

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, top dressed portions of a field for tender/nurse cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Topographic sensing and/or mapping with tilt sensors.
- t) Automatic skew correction.
- u) No complex folding requirements for wide implements to go into transport mode.
- v) Camera object sensing assistance for movement around obstacles.
- w) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.



## FARMING REIMAGINED

- x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 19) Liquid Dribble Bar

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Topographic sensing and/or mapping with tilt sensors.
- t) Automatic skew correction.
- u) No complex folding requirements for wide implements to go into transport mode.
- v) Camera object sensing assistance for movement around obstacles.
- w) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.



## FARMING REIMAGINED

- x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 20) Liquid, NH<sub>3</sub>, Granular Strip Till

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Topographic sensing and/or mapping with tilt sensors.
- t) Automatic skew correction.
- u) No complex folding requirements for wide implements to go into transport mode.
- v) Camera object sensing assistance for movement around obstacles.
- w) Records of grain stored, loaded, unloaded and remaining based on weight and/or camera recognition.



## FARMING REIMAGINED

- x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 21) Cultivator

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tilled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Soil draft mapping calculated as a function of engine power reequpment or hydrostat pressures.
- m) Soil compaction mapping using on unit sensors.
- n) Topographic sensing and/or mapping with tilt sensors.
- o) Automatic skew correction.
- p) GPS records of rock locations.
- q) No complex folding requirements for wide implements to go into transport mode.
- r) Camera object sensing assistance for movement around obstacles.
- s) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- t) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- u) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 22) Double Disc

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.



## FARMING REIMAGINED

- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tilled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- m) Soil compaction mapping using on unit sensors.
- n) Topographic sensing and/or mapping with tilt sensors.
- o) Automatic skew correction.
- p) GPS records of rock locations.
- q) No complex folding requirements for wide implements to go into transport mode.
- r) Camera object sensing assistance for movement around obstacles.
- s) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- t) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- u) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 23) Rototiller

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.



## FARMING REIMAGINED

- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tilled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- m) Soil compaction mapping using on unit sensors.
- n) Topographic sensing and/or mapping with tilt sensors.
- o) Automatic skew correction.
- p) GPS records of rock locations.
- q) No complex folding requirements for wide implements to go into transport mode.
- r) Camera object sensing assistance for movement around obstacles.
- s) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- t) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- u) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 24) Ditcher

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for fuel cart travel.



## FARMING REIMAGINED

- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- k) Soil compaction mapping using on unit sensors.
- l) No complex folding requirements for wide implements to go into transport mode.
- m) Camera object sensing assistance for movement around obstacles.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- o) Pre-loaded existing elevation desired elevation and slope along with .

### 25) Drainage Tile Plow

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for fuel cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Pre-loaded existing elevation desired elevation and slope.



## FARMING REIMAGINED

### 26) Heavy Harrow

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the-go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tilled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Automatic skew correction.
- n) No complex folding requirements for wide implements to go into transport mode.
- o) Camera object sensing assistance for movement around obstacles.
- p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- q) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- r) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 27) Light Harrow

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.



## FARMING REIMAGINED

- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tilled portions of a field for harvest cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Automatic skew correction.
- n) No complex folding requirements for wide implements to go into transport mode.
- o) Camera object sensing assistance for movement around obstacles.
- p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- q) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- r) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 28) Diamond Harrow

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously harrowed portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.



## FARMING REIMAGINED

- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Automatic skew correction.
- n) No complex folding requirements for wide implements to go into transport mode.
- o) Camera object sensing assistance for movement around obstacles.
- p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- q) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- r) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 29) Ridge Forming Equipment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for fuel cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- m) Soil compaction mapping using on unit sensors.
- n) Topographic sensing and/or mapping with tilt sensors.
- o) Automatic skew correction.
- p) No complex folding requirements for wide implements to go into transport mode.
- q) Camera object sensing assistance for movement around obstacles.



## FARMING REIMAGINED

- r) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- s) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- t) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 30) Seed Bed Preparation Tools

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for fuel cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Automatic skew correction.
- n) No complex folding requirements for wide implements to go into transport mode.
- o) Camera object sensing assistance for movement around obstacles.
- p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 31) Fertilizer Spreader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, fill location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - p) Display of real time images or videos on remote tablet.
  - q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - s) Topographic sensing and/or mapping with tilt sensors.
  - t) Automatic skew correction.
  - u) No complex folding requirements for wide implements to go into transport mode.
  - v) Camera object sensing assistance for movement around obstacles.
  - w) Tramline and controlled traffic planning.
  - x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 32) Granular Floater/Applicator
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, fill location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - p) Display of real time images or videos on remote tablet.
  - q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - s) Topographic sensing and/or mapping with tilt sensors.
  - t) Automatic skew correction.
  - u) No complex folding requirements for wide implements to go into transport mode.
  - v) Camera object sensing assistance for movement around obstacles.
  - w) Tramline and controlled traffic planning.
  - x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 33) Foam Applicator
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - p) Display of real time images or videos on remote tablet.
  - q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - s) Topographic sensing and/or mapping with tilt sensors.
  - t) Automatic skew correction.
  - u) No complex folding requirements for wide implements to go into transport mode.
  - v) Camera object sensing assistance for movement around obstacles.
  - w) Tramline and controlled traffic planning.
  - x) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 34) Fertilizer Bander
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field for tender/nurse cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- t) Soil compaction mapping using on unit sensors.
- u) Topographic sensing and/or mapping with tilt sensors.
- v) Automatic skew correction.
- w) No complex folding requirements for wide implements to go into transport mode.
- x) Camera object sensing assistance for movement around obstacles.
- y) Tramline and controlled traffic planning.
- z) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- aa) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- bb) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.



FARMING REIMAGINED

### 35) Combine Harvester

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- k) Display of real time images or videos on remote tablet.
- l) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- m) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- n) Topographic sensing and/or mapping with tilt sensors.
- o) Automatic skew correction.
- p) No complex folding requirements for wide implements to go into transport mode.
- q) Camera object sensing assistance for movement around obstacles.
- r) Tramline and controlled traffic planning.
- s) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- t) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- u) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- v) Land yield mapping.



## FARMING REIMAGINED

### 36) Field Mower

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the-go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously mowed portions of a yard/field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Automatic skew correction.
- n) No complex folding requirements for wide implements to go into transport mode.
- o) Camera object sensing assistance for movement around obstacles.
- p) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- q) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- r) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 37) Swather Header/Table

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.



## FARMING REIMAGINED

- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, swathed portions of a field for harvest cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) No complex folding requirements for wide implements to go into transport mode.
- m) Camera object sensing assistance for movement around obstacles.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- o) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- p) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 38) Flax Straw Buncher

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.



## FARMING REIMAGINED

- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) No complex folding requirements for wide implements to go into transport mode.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - o) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - p) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- 39) Rotary Stalk/Straw Cutter
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously cut portions of a field.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - i) Display of real time images or videos on remote tablet.
  - j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) No complex folding requirements for wide implements to go into transport mode.
  - l) Camera object sensing assistance for movement around obstacles.
  - m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - n) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - o) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.



FARMING REIMAGINED

#### 40) Manure Spreader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, spread portions of a field for fuel cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Variable Rate Control by zone for any implement dispersing any product.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- k) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- l) Display of real time images or videos on remote tablet.
- m) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- n) Camera object sensing assistance for movement around obstacles.
- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- p) Nutrient mapping for effluent.

#### 41) Silage Wagon

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.



## FARMING REIMAGINED

- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for fuel cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, silage cart location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispensing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Display of real time images or videos on remote tablet.
- m) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- n) Camera object sensing assistance for movement around obstacles.
- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 42) Side Delivery Hay Rake

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously raked portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) Display of real time images or videos on remote tablet.



## FARMING REIMAGINED

- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) No complex folding requirements for wide implements to go into transport mode.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 43) Hay Conditioner

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously conditioned portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- n) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 44) Bale Wrapper

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, completed portions of a field for harvest cart travel.
  - g) Camera guidance for machine location, bale pile location, bale location etc.
  - h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - i) Display of real time images or videos on remote tablet.
  - j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) Camera object sensing assistance for movement around obstacles.
  - l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 45) Tub Style Feed Grinder
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - h) Display of real time images or videos on remote tablet.
  - i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - j) Camera object sensing assistance for movement around obstacles.
  - k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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#### 46) Bale Processor/Feeder

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

#### 47) Silage Harvester

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for silage cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.



## FARMING REIMAGINED

- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) No complex folding requirements for wide implements to go into transport mode.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - o) Land yield mapping.
- 48) Baler - Large Round
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, unswathed portions of a field.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
  - i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Camera object sensing assistance for movement around obstacles.
  - m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - n) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
  - o) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
  - p) Land yield mapping.



## FARMING REIMAGINED

### 49) Baler - Large Square

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unswathed portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- o) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- p) Land yield mapping.

### 50) Baler - Small Square

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



## FARMING REIMAGINED

- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unsweathed portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- i) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- o) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- p) Land yield mapping.

### 51) Bale Hauling/Gathering

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Camera guidance for machine location, bale stack location, bale location etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.



## FARMING REIMAGINED

- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 52) Bale Stacker

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Camera guidance for machine location, bale stack location, bale location etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 53) Hay Rake

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.



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- f) Machine to machine communication of go and no-go travel zones. For example, unswathed portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 54) Hay Mower/Conditioner

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unswathed portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- n) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.



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#### 55) Snow Mover/Plough

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, portions of a yard or road cleared of snow.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, building location, bin location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

#### 56) Rock Digger

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



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- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 57) Rock Windrower

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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58) Rock Picker

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, rock pile location, grain bag location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

59) Fence Post Pounder

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



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- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously driven posts.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Pre-planned fence line and post spacing. May record soil characteristics.

### 60) Snow Blower

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, portions of a yard or road previously cleared.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- m) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.
- n) Yard mapping for snow removal.



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#### 61) Snow Blade

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, portions yard or road previously cleared.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Yard mapping for snow removal.

#### 62) Snow Hauler

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, areas cleared of snow for safe travel.



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- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, snow pile location, building location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Yard mapping for snow removal.

### 63) Front End Loader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field for travel.
- g) Camera guidance for machine location, grain pile location, bale location etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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#### 64) Berry and Fruit Picking

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of an orchard or field.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, row location, sorting/grading location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Land yield mapping.

#### 65) Box Scraper

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



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- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, planted portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Topographic sensing and/or mapping with tilt sensors.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Pre-loaded existing elevation desired elevation and slope along with .

### 66) Large Slough Pumps

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, slough locations.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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#### 67) Drainage Tile Laying Equipment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously tiled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Topographic sensing and/or mapping with tilt sensors.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Pre-loaded existing elevation desired elevation and slope along with .
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

#### 68) Potato Planter

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.



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- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for conveyor location, machine location, etc.
  - i) Variable Rate Control by zone for any implement dispersing any product.
  - j) Overlap shut-off for any implement dispensing any product.
  - k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
  - m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
  - n) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
  - o) Display of real time images or videos on remote tablet.
  - p) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
  - q) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - r) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
  - s) Soil compaction mapping using on unit sensors.
  - t) No complex folding requirements for wide implements to go into transport mode.
  - u) Camera object sensing assistance for movement around obstacles.
  - v) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 69) Potato Hiller
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



## FARMING REIMAGINED

- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously hilled portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- l) Soil compaction mapping using on unit sensors.
- m) No complex folding requirements for wide implements to go into transport mode.
- n) Camera object sensing assistance for movement around obstacles.
- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- p) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- q) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 70) Potato and Root Crop Harvester

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for conveyor location, machine location, row location, etc.



## FARMING REIMAGINED

- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- k) Display of real time images or videos on remote tablet.
- l) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- m) No complex folding requirements for wide implements to go into transport mode.
- n) Camera object sensing assistance for movement around obstacles.
- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- p) Land yield mapping.

### 71) Potato and Other Agricultural Product Hauling

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout or conveyor location, machine location, grain pile location, bale stack location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



FARMING REIMAGINED

#### 72) Potato and Other Agricultural Product Conveying

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for conveyor location, machine location, grain pile location, fill location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

#### 73) Tree Mover

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



## FARMING REIMAGINED

- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, holes left after tree removal in portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 74) Sod Harvesting

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for truck travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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#### 75) Three Point Hitch Attachment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

#### 76) Bean Cutter

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



## FARMING REIMAGINED

- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously cut portions of a field.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- m) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

### 77) Lime Spreader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, portions of a field that have been previously spread.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.



## FARMING REIMAGINED

- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 78) Earth Moving Equipment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously completed portions of a field or jobsite.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, pile location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Pre-loaded existing elevation desired elevation and slope along with .
- o) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.



## FARMING REIMAGINED

### 79) Earth Hauling Equipment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, trenches in field or jobsite.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, pile location, building location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 80) Grader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.



## FARMING REIMAGINED

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously graded portions of a road or jobsite.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Topographic sensing and/or mapping with tilt sensors.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 81) Ditcher

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously ditched portions of a field or jobsite.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.



## FARMING REIMAGINED

- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Topographic sensing and/or mapping with tilt sensors.
- k) Camera object sensing assistance for movement around obstacles.
- l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- m) Pre-loaded existing elevation desired elevation and slope along with .
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 82) Fork Lift

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for rack location(s), machine location, loading dock location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Camera object sensing assistance for movement around obstacles.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



## FARMING REIMAGINED

- o) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 83) Telehandler

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for building location, machine location, pile location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Camera object sensing assistance for movement around obstacles.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- o) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.



FARMING REIMAGINED

#### 84) Back Hoe

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously trenched portions of a jobsite or field.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for machine location, fill pile location(s), etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Pre-loaded existing elevation desired elevation and slope along with .
- o) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

#### 85) Loader

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



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and maneuvers. Activities may be switched back and forth between remote and autonomous control.

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 86) Pole Installation Drill and Lift for Overhead Lines

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.



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- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, poles previously installed on portions of a line.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 87) Work Platform (man lift)

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, other man lifts on the jobsite.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for building location, machine location, ceiling location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.



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- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously

### 88) Street Sweeping

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously swept streets.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 89) Paver

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



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and maneuvers. Activities may be switched back and forth between remote and autonomous control.

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously paved portions of a road.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, grain pile location, bale location etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 90) Fire Guard Unit

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor



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and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.

- h) Camera guidance for machine location, water source location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 91) Vibrating Packer

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously packed portions of a jobsite.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 92) Highway Knob Style Packer

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



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and maneuvers. Activities may be switched back and forth between remote and autonomous control.

- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously packed portions of a road or jobsite.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.

### 93) Highway Smooth Packer

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously packed portions of a road or jobsite.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.



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#### 94) Ditch Mower

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
- g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- h) Display of real time images or videos on remote tablet.
- i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- j) Camera object sensing assistance for movement around obstacles.
- k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- l) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- m) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

#### 95) Drill Rig for Cement Piles

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.



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- f) Machine to machine communication of go and no-go travel zones. For example, previously drilled portions of a jobsite.
- g) Camera guidance for pile location, machine location, fill location, etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Soil compaction mapping using on unit sensors.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Camera object sensing assistance for movement around obstacles.
- n) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- p) Pre-loaded existing elevation desired elevation and slope along with .
- q) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 96) Drill Installation of Helical Piles

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously drilled portions of a jobsite.
- g) Camera guidance for pile location, machine location, fill location, etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.



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- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) Soil compaction mapping using on unit sensors.
  - l) Topographic sensing and/or mapping with tilt sensors.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.
  - o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - p) Pre-loaded existing elevation desired elevation and slope along with .
  - q) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.
- 97) Drill Rig for Water Wells and Other Purposes
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously drilled portions of a jobsite.
  - g) Camera guidance for drilling location, machine location, fill pile location, etc.
  - h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - i) Display of real time images or videos on remote tablet.
  - j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) Soil compaction mapping using on unit sensors.
  - l) Topographic sensing and/or mapping with tilt sensors.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Load monitoring and feed adjusting of auger/conveyor drive as well as earth drilling augers to maximize output capacity.



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- o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- p) Pre-loaded existing elevation desired elevation and slope along with .
- q) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

### 98) Hydrovac Units

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously excavated portions of a jobsite.
- g) Camera guidance for excavation location, machine location, fill pile location, etc.
- h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- i) Display of real time images or videos on remote tablet.
- j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- k) Soil compaction mapping using on unit sensors.
- l) Topographic sensing and/or mapping with tilt sensors.
- m) Camera object sensing assistance for movement around obstacles.
- n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- o) Pre-loaded existing elevation desired elevation and slope along with .
- p) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.



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99) Skid Steer and Excavating Attachments

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
- d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
- e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
- f) Machine to machine communication of go and no-go travel zones. For example, previously excavated portions of a jobsite.
- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for excavating location, machine location, fill pile location, etc.
- i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- j) Display of real time images or videos on remote tablet.
- k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- l) Camera object sensing assistance for movement around obstacles.
- m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- n) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.

100) Open Pit Mining Equipment

- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
- b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



## FARMING REIMAGINED

- and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, portions of a jobsite safe for travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for machine location, pile location, etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Camera object sensing assistance for movement around obstacles.
  - m) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - n) Pre-loaded existing elevation desired elevation and slope along with .route mapping
- 101) Test Drill
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously drilled portions of a jobsite.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.



## FARMING REIMAGINED

- h) Display of real time images or videos on remote tablet.
  - i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - j) Camera object sensing assistance for movement around obstacles.
  - k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - l) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devices allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.
- 102) Soil Sampling Drill
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously drilled portions of a field or jobsite.
  - g) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - h) Display of real time images or videos on remote tablet.
  - i) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - j) Camera object sensing assistance for movement around obstacles.
  - k) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 103) Orchard Equipment
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs



## FARMING REIMAGINED

- and maneuvers. Activities may be switched back and forth between remote and autonomous control.
- c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously harvested portions of an orchard.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for bin locations, machine location, row location, etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Soil compaction mapping using on unit sensors.
  - m) Topographic sensing and/or mapping with tilt sensors.
  - n) Camera object sensing assistance for movement around obstacles.
  - o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 104) Forestry Equipment
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and its implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a jobsite.



## FARMING REIMAGINED

- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for machine location, drag line location, etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Soil compaction mapping using on unit sensors.
  - m) Topographic sensing and/or mapping with tilt sensors.
  - n) Camera object sensing assistance for movement around obstacles.
  - o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 105) Construction Equipment
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, previously worked portions of a jobsite.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for building location, machine location, pile location(s), etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Soil compaction mapping using on unit sensors.
  - m) Topographic sensing and/or mapping with tilt sensors.



## FARMING REIMAGINED

- n) Camera object sensing assistance for movement around obstacles.
  - o) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - p) Pre-loaded existing elevation desired elevation and slope along with .
  - q) Construction work sites become a haven of potential jobs and activities for DOT. The ability to quickly change the attachment from devices such as fork lift or zoom boom to drill rig to earth moving to man lift devises allows for a multiple of autonomous and remote controls activities that are safer quicker and less labor intensive than conventional equipment all at a lower capital investment. As an example, pile sizes, depths and precise locations can be pre-loaded on a jobsite DOT work plan for DOT to execute and record autonomously.
- 106) Mining Equipment
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, portions of a mine safe for travel.
  - g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
  - h) Camera guidance for machine location, conveyor location, etc.
  - i) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - j) Display of real time images or videos on remote tablet.
  - k) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - l) Topographic sensing and/or mapping with tilt sensors.
  - m) Camera object sensing assistance for movement around obstacles.
  - n) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
  - o) Pre-loaded existing elevation desired elevation and slope along with .



## FARMING REIMAGINED

- 107) Tree Shaking Apparatus
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, harvested portions of a field for harvest cart travel.
  - g) Camera guidance for tree location, machine location, etc.
  - h) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
  - i) Display of real time images or videos on remote tablet.
  - j) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
  - k) Camera object sensing assistance for movement around obstacles.
  - l) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- 108) Strip-till Equipment with Fertilizer Banding
- a) Autonomous path planning and autonomous implement function planning can be done prior to starting a job for any numbers of routine steps and predetermined paths. This is facilitated by specialized computer programs that make the planning fast and precise.
  - b) The DOT unit and the implement can be remotely controlled by an operator within line of sight. This may be done from another vehicle. The remote control is used to execute less routine jobs and maneuvers. Activities may be switched back and forth between remote and autonomous control.
  - c) Information and data can be stored on DOT and/or shared and stored between DOT units, through the cloud and/or directly with the controller's tablet.
  - d) On-the go virtual tethering and cooperative operation between machines for autonomous and/or remote human operation. Transporting to fields is one application of such a function.
  - e) DOT and it's implements may incorporate location sensors and/or shape recognition sensors (or cameras) to facilitate alignment for auguring, conveying or other product transfer operations, as well as aids in loading implements, picking bales, picking rocks shaking trees, picking weeds, etc.
  - f) Machine to machine communication of go and no-go travel zones. For example, unharvested portions of a field.



## FARMING REIMAGINED

- g) Trucks, DOT implement tanks and other bins can be smart loaded and unloaded by weight with the help of load cell data and field and/or bin size data. Load cells can also be used to monitor and govern loads on implements such as rock pickers earth hauling equipment and devices such as fork lifts, telehandlers and man lifts.
- h) Camera guidance for auger downspout location, machine location, fill location, etc.
- i) Variable Rate Control by zone for any implement dispersing any product.
- j) Overlap shut-off for any implement dispersing any product.
- k) Remote control and autonomous tracking of locations of people, obstacles and mobile equipment on job sites or yard sites.
- l) Mapping and record keeping of sensitive areas with adapted-to-suit product rates.
- m) Recorded traceability of desired and executed autonomous machine application; rates, dates, weather at time of application etc.
- n) Weed and plant recognition with geo-referenced record of crop or weed plant population.
- o) On-the-fly adapt operations (including shut-down) as a result of on-board weather station data.
- p) Display of real time images or videos on remote tablet.
- q) Intelligent product refill planning to match equal portion of field or remaining field portion. As well as planning efficient refill location in reference to distance from the fill station.
- r) Built-in speed zones in path plan for safety and proper performance. Uneven terrain, proximity of obstacles, curves, hills.
- s) Soil draft mapping calculated as a function of engine power reequipment or hydrostat pressures.
- t) Soil compaction mapping using on unit sensors.
- u) Topographic sensing and/or mapping with tilt sensors.
- v) Automatic skew correction.
- w) No complex folding requirements for wide implements to go into transport mode.
- x) Camera object sensing assistance for movement around obstacles.
- y) Tramline and controlled traffic planning.
- z) Autonomous and/or remote movement aided via position sensors and feelers for loading and unloading implements onto DOT or loads onto implements.
- aa) Pre-loaded rock locations and/or ground impact locations for picking or adapting future operations.
- bb) Geo-referencing of bales, rocks, seeder plug locations for future pick-up or clean up.

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