

ACTIONECO

GREEN DEAL ECO-SYSTEM

GREEN TRANSITION

GLOBAL COMPETITIVENESS

DIGITAL TRANSITION

DIGI-ERA IS HERE! SM

ELECTRIC | ELECTRONIC | ECOLOGICAL | ERGONOMIC | ECONOMICAL | ENERGY EFFICIENT | ECO-FRIENDLY

Auto Desk, Yaskawa, Digital Twin, AI, D/ML, A/V/MR, PTC Vuforia Microsoft

CARBON NEUTRAL SOLUTIONS

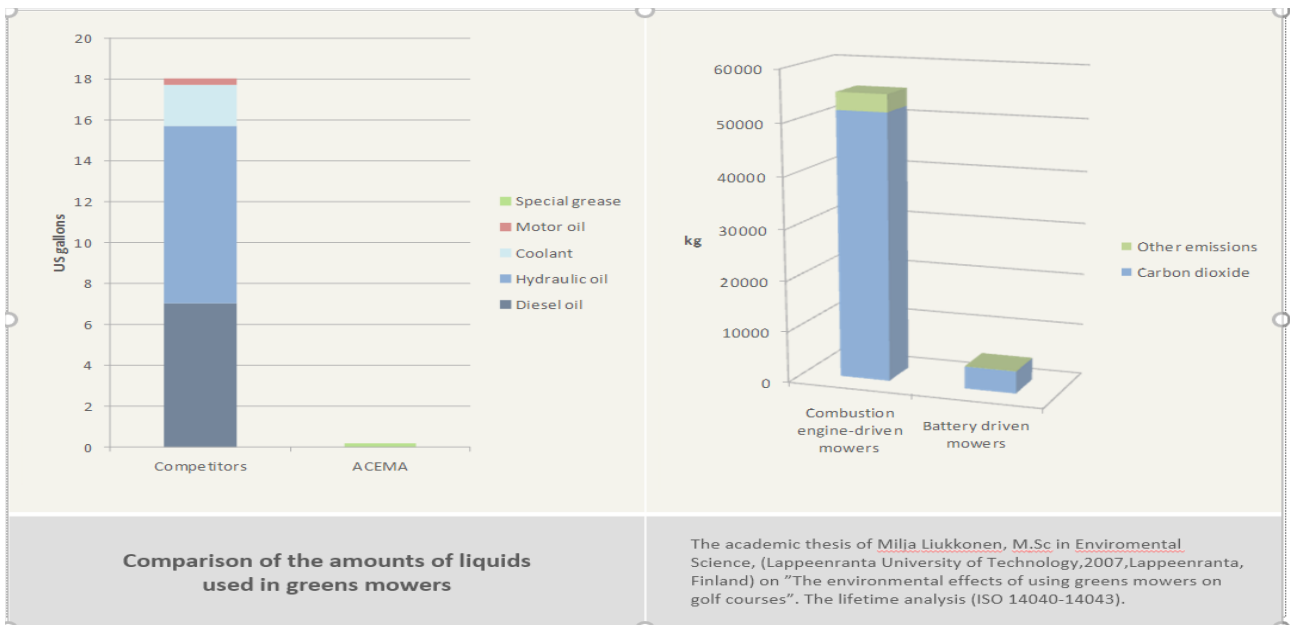


A TM

<https://youtu.be/jheH3JfV-uA>
<https://youtu.be/GJq911H2BVI>
<https://youtu.be/nMnIW60U6F8>

GOLD MEDAL ON 2007

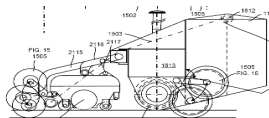
ACTIONECO 1st G. fully electric electronic multi-purposes greens mower:



Years of fact-finding tours in 10 EU-countries with mobile home and AE in trailer at trade and Actioneco Road Shows and Golf Industry Show in New Orleans La USA resulted in

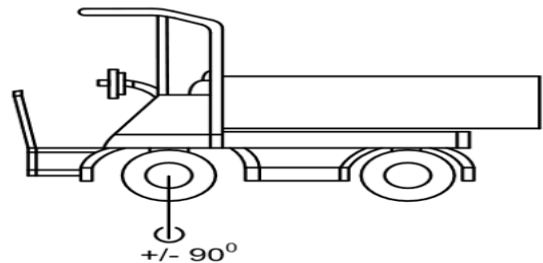
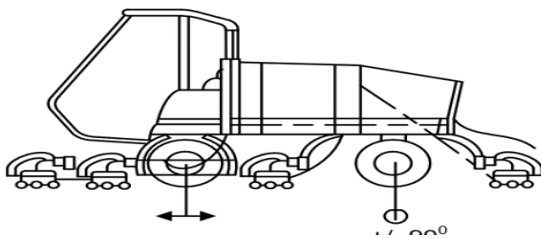


drawing and writing of the 1st US-Patent application on FULLY ELECTRIC/ELECTRONIC ECO-SYSTEM SOLUTIONS



“Multi-Job”-AUTOMATIC / SINGLE WALK

/ 3-5 AWD / 7-9 AWD / M-J 5AWD GREENS MOWERS



MULTI-JOB MACHINES

REVERSED BUILT VEHICLES

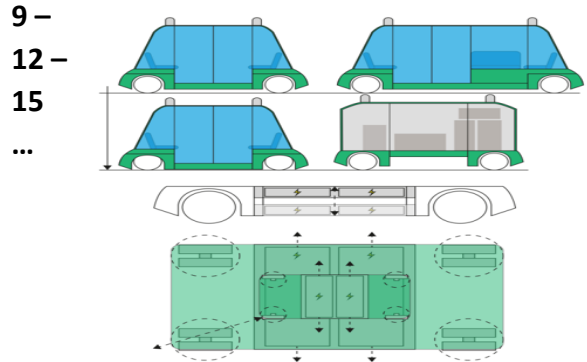
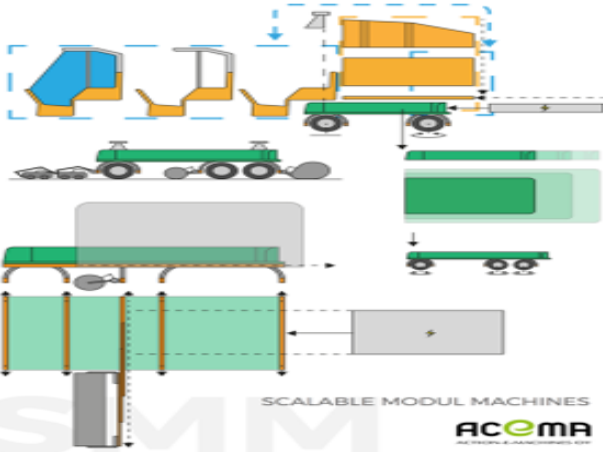
7. The article on October 2016 in “Technic & Economy” brings up the problems, needs remedies.



Ideally, machines run around the clock – There is a lot of savings potential in municipal work.

Municipal technology include energy and waste management, parks, traffic routes, real estate and water management. In the study of Taloustutkimus, (Economic Research Inst.), the extent and efficiency of the the industry were evaluated.

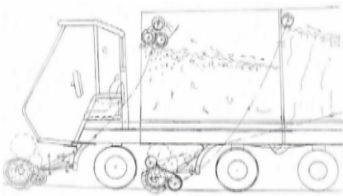
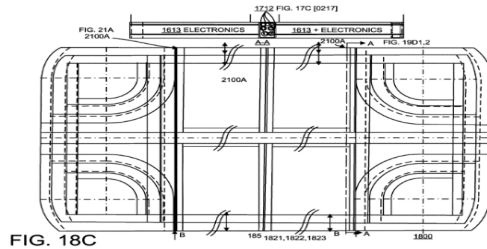
Tekniikka ja Talous (Tecnic and Economy) on 26th October 2016.= 2nd US-patent application on April 4th 2016



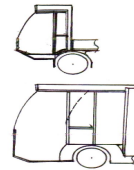
SMM SCALABLE MODUL MACHINES **ACEMA**

SMV SCALABLE MODUL VEHICLES **ACEMA** ACTION & MACHINES CV

Scalable modular Smart Machines and 4– 8... AWD/Steer Vehicles and Busses with up to +/- 360D- steering and quick floor lift up for driving and sinking down on which need minimum space.



MULTI-JOBS STREET CARE



SCALABLE RANGE OF VEHICLES AND BUSES

UNIVERSAL CABIN

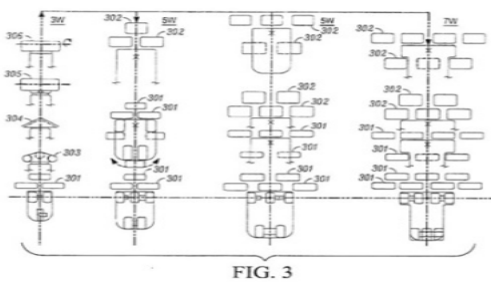


FIG. 3 RANGE OF MULTI-JOB MACHINES

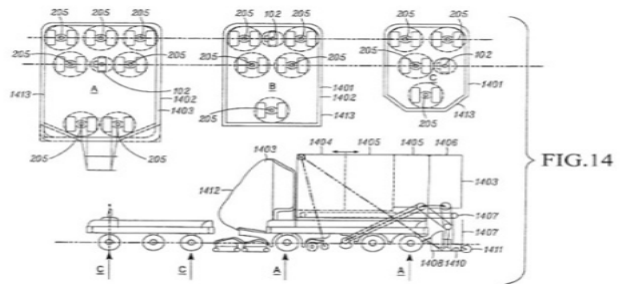
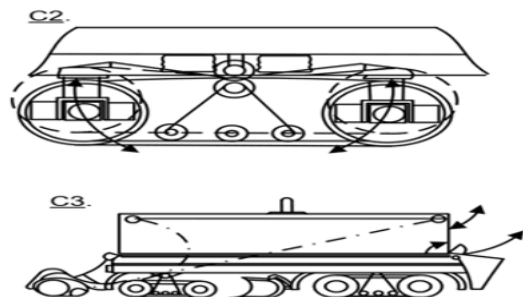
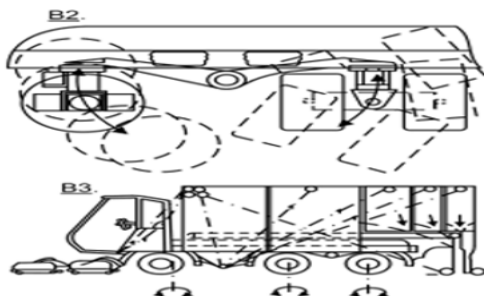


FIG. 14 RANGE OF SMART MACHINES



FIGS B2 & B3 M-J TYRED SMART MACHINES

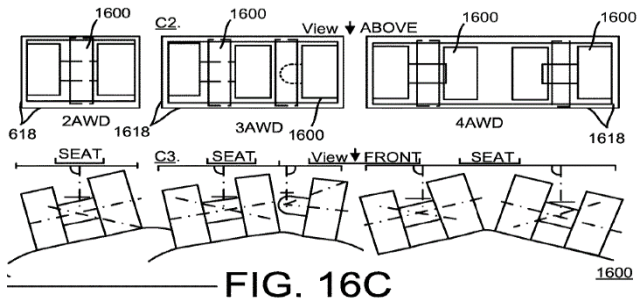


FIG. 16C

FIG 16 C M-J EQUAL WHEEL LOAD MACHINES AND VEHICLES

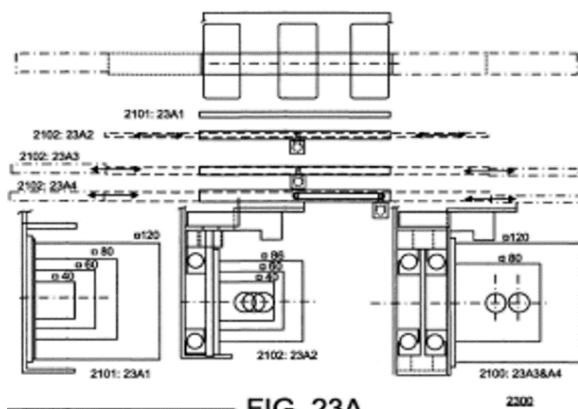
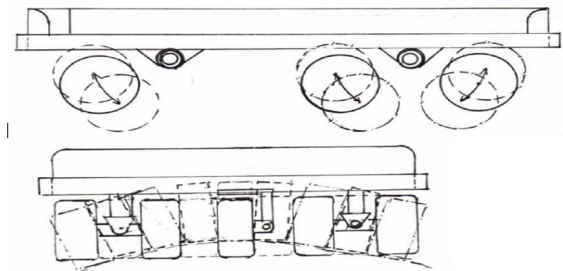


FIG. 23A

FIGS C2 & C3 M-J CHANGED WITH TRACK DRIVE



M-J EQUAL WHEEL LOAD SMART MACHINES AND VEHICLES

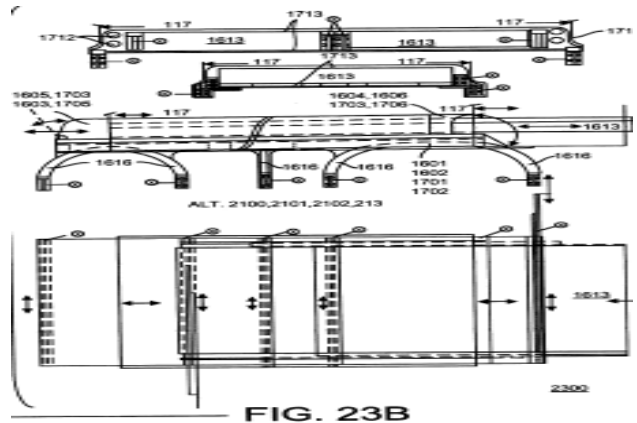


FIG. 23B

FIG.23A FIXED, +/-HALF WIDE AND FULL WIDE FIG. 23B AT FRONT, REAR, UNDER, ABOVE AND BOTH SIDES SIDE SHIFT ON QUICK INTERCHANGE OF IMPLEMENTS ON MULTI-JOBS AND UPTO AUTOMATIC AND AUTONMIOUS BATTERY PACKS CHANGE.

DIGITAL TWIN AI EXPANSION TO NEW APPLICATIONS AND INDUSTRIES AND ACTIONECO-ACEMA VERTICAL INTEGRATE NETWORK, A-A VIN, AND A-A PATENT POOLE BUILDING BUILDING.

**Mevea's Digital Twin
- Supporting the Whole Product Lifecycle**



SIMULATIONS...

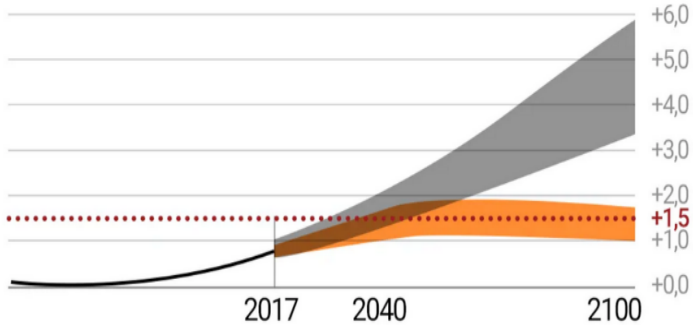


THE RESULT OF 7 GROUPS OF DESIGN STUDENTS OF LAHTI UNIVERSITY OF APPLIED SCIENCES

Negative Emissions Technologies

2018 IPCC Special Report

Jos kasvihuonekaasuja ei vähennetä merkittävästi, 1,5 asteen raja ylitetään



- toteutunut kehitys 1950 – 2017
- keskilämpötilan nousu rajoitetaan 1,5 asteeseen
- päästöt kasvavat voimakkaasti

Lähde: IPCC, ilmasto-opas.fi

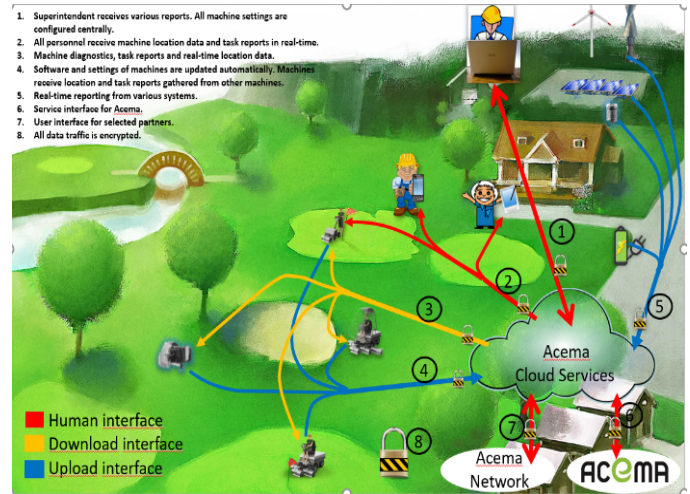
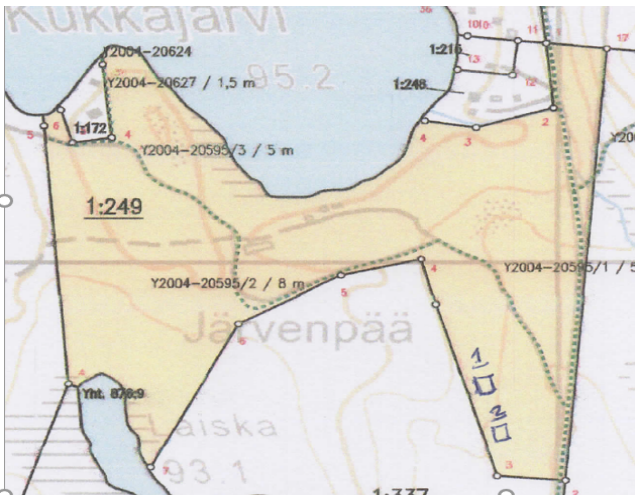
Kuva: Leena Luotio / Yle, lähde: IPCC, ilmasto-opas.fi, Sitra

If greenhouse gas emissions are not remarkable minimized, 1,5 degree limit is crossed

emissions develop strongly.

realized development 1950 – 2017 raise of medium temperature limited 1,5 degrees.

ACTIONECO PRE-PILOT TEST CENTER (P-P TC) LAKE FRONT OF 14,5 HA TEST AREA



1. Superintendent receives various reports. All machine settings are configured centrally.
2. All personnel receive machine location data and task reports in real-time.
3. Machine diagnostics, task reports and real-time location data.
4. Software and settings of machines are updated automatically. Machines receive location and task reports gathered from other machines.
5. Real-time reporting from various systems.
6. Service interface for Acema.
7. User interface for selected partners.
8. All data traffic is encrypted.

1. Electronic electric machines
2. No oil leaks
3. No noise
4. No fuel

Our offering in the future:

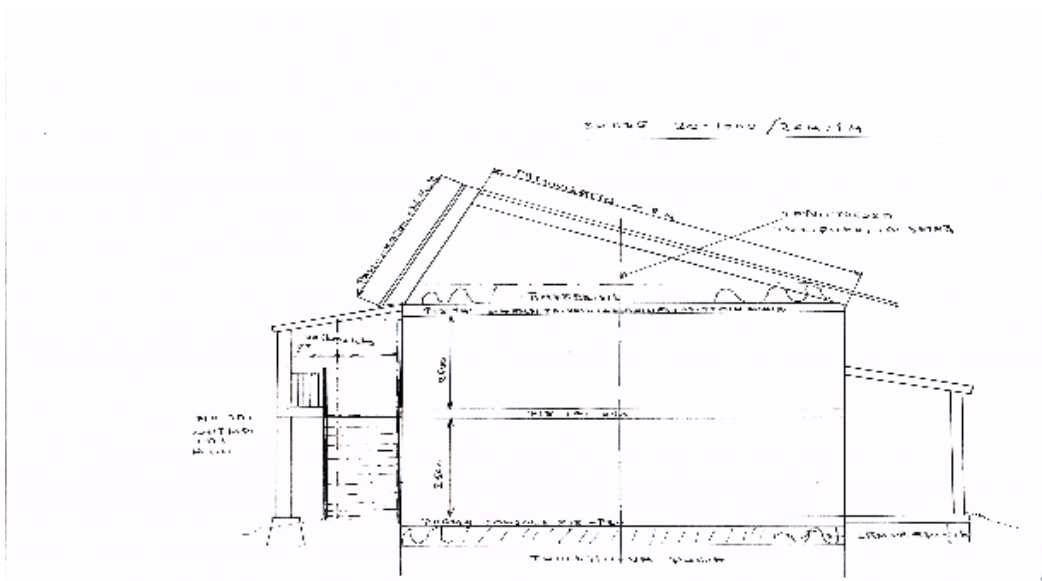
5. Unprecedented golf course machines
6. Unprecedented golf course equipment
7. Energy production with solar panels
8. Energy production with wind turbines
9. Electric car charging stations

1. Superintendent receives various report.
All machine settings are configured centrally.
2. All peronnell receive machine location data and task tak reports in real-time.
3. Machine diagnostics, task report and real-time location data.
4. Software and settings of machines are updated automatically.
5. Machine real-time reporting and task reports gathered from other machines.
6. Service interface for Acema.
7. User interface for selected partners.
8. All data traffic is encrypted.

A-A Pre-Pilot Test Centre facilities



“Circular Economy” in and out renovated all around old barn with 2nd hand triplex thermal windows, polycarbonate drywall insulations with interior walls and fire-resistant interior ceilings and 38 mm thick 200 sq meter plywood floors etc.



The new wooden 2-story > 200 sq meters “Giant Log” and CLT cross laminated house. “Zero/Passive Energy” 2-level massive wooden “Giant Log” or CLT building, where for example 150 m² solid log building with log walls retain 30 000 kilograms of CO₂, which compensate 15 years carbon footprint of media size family car and retain it lifelong: (Hirsiteollisuus: Hirsi -EPD 8/2019, 14 000 km/v, 135 CO₂/k),

They are important parts of Actioneco Pre-Pilot Test Centre on year- and day-down testing of ACTIONECO-ACEMA Fully Electric and Electronic/90 % “Tank-to Wheels, Multi-Purposes and

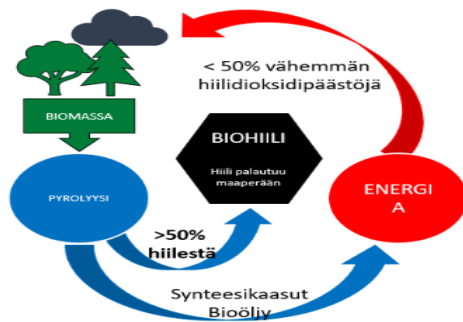
-Jobs by "One Pass" / quick inetrchange of implements at front, rear, under, above and asides, performing at best over 10 jobs / battery packs, and rubber wheels interchange / Track Drive on 365/24/7 operations to be tested at Actioneco P-P TC, where the Biochar testings will be carrier out to test claims:

-Biochar bind 5 times its weight of water!

-1 kg biochar binds 3,67 kg CO_2!

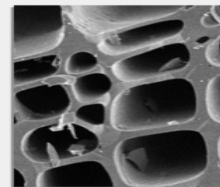
- at 50% CO_2 emissions:

Mitä on biohiili?



Biohiili voi sitoa 5 kertaa oman painonsa verran vettä!

1 kg biohiiltä sitoo 3,67 kg CO_2 :ta!



ALL ABOVE RESULT TO

ACTIONECO

CARBON NEUTRAL SOLUTIONS

ACeMATM
STEPS