

→ SPACE MOVES!

Partners, Funding and Ideas for Space-enabled Transport and Mobility Services
business.esa.int/spacemoves



BUCHER
municipal



ADVANCED SNOW PLOUGH AND SALT SPREADER
BASED ON INNOVATIVE SPACE TECHNOLOGIES

From a Feasibility Study to a Demonstration Project... and beyond

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Manager

Berlin | 18-19 September 2017

USERS



Public
Administrations



Private/Public
Contractors



Private/Public
Concessionaires

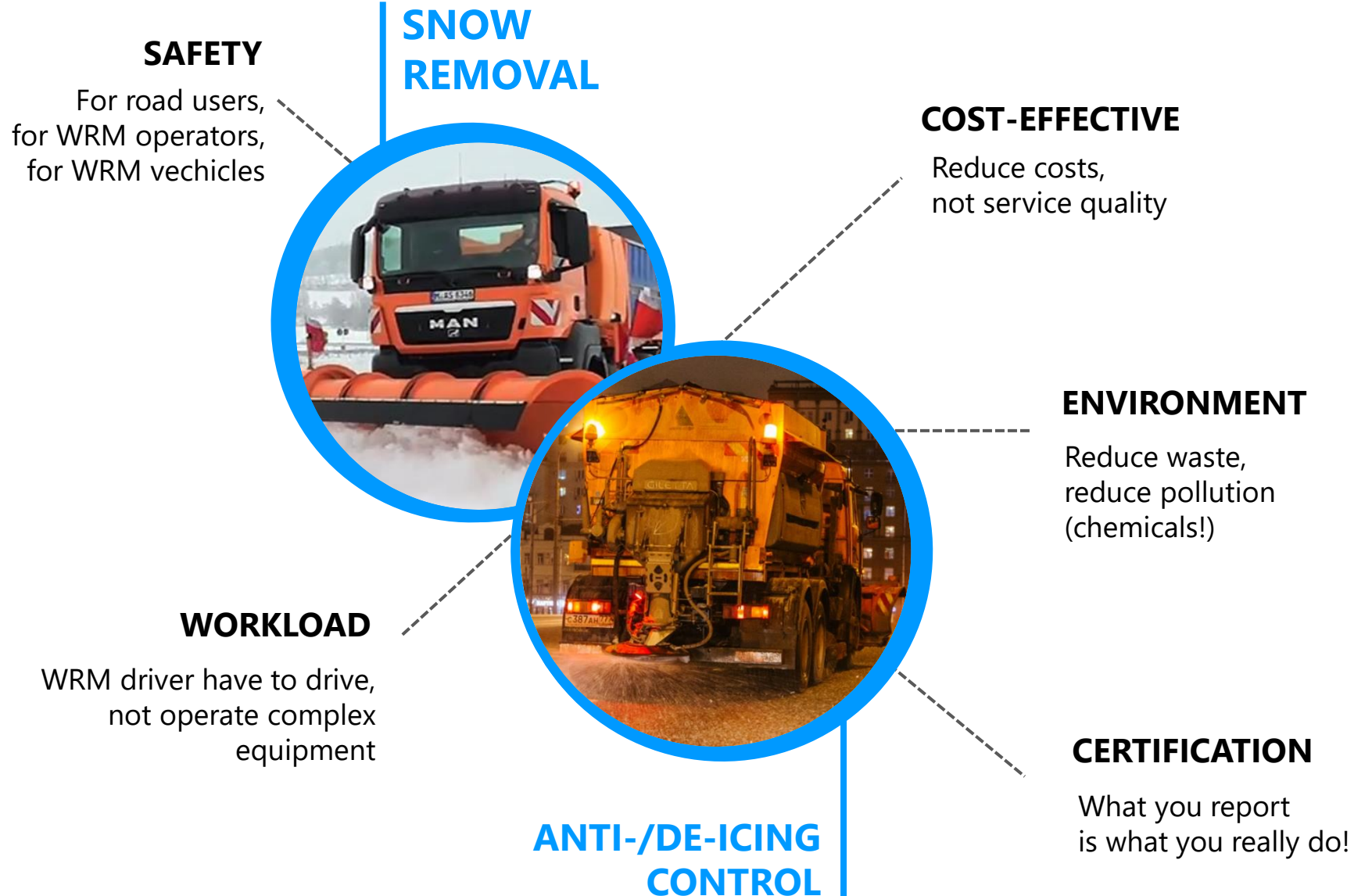
10 000+

NEW EQUIPMENTS/YEAR

c. 200 m€

REVENUES IN 2016

WINTER ROAD MAINTENANCE (WRM)



USERS



TRAFIKVERKET
SWEDISH TRANSPORT



Statens vegvesen



SVEVIA
mesta



Bonaventura



A22 Autostrada del Brennero SpA
Brennerautobahn AG

4 PILOT-SITES
IN EUROPE

4 DIFFERENT
COUNTRIES

FROM NEEDS TO ADVANCED SERVICES



SNOW REMOVAL

DRIVER ASSISTANT

Context awareness information
i.e. road conditions

Alerting
i.e. approaching obstacles

MANAGEMENT SUPPORT

Mission planning
Real-time tracking
Mission data archive & analysis

SPREADING CONTROL AUTOMATION

Optimization of spreading
*i.e. road geometry, road surface,
weather forecast*

SNOW PLOUGHS SUPPORT

Working settings suggestions
to driver, even full automation
real-time notification

ANTI-/DE-ICING CONTROL



OVERALL SYSTEM ARCHITECTURE

SPACE ASSETS AND TECHNOLOGIES

Earth Observation

VHR imagery (0.3-1 m), also exploiting **GIS**

- Road attributes (geometry, attributes)

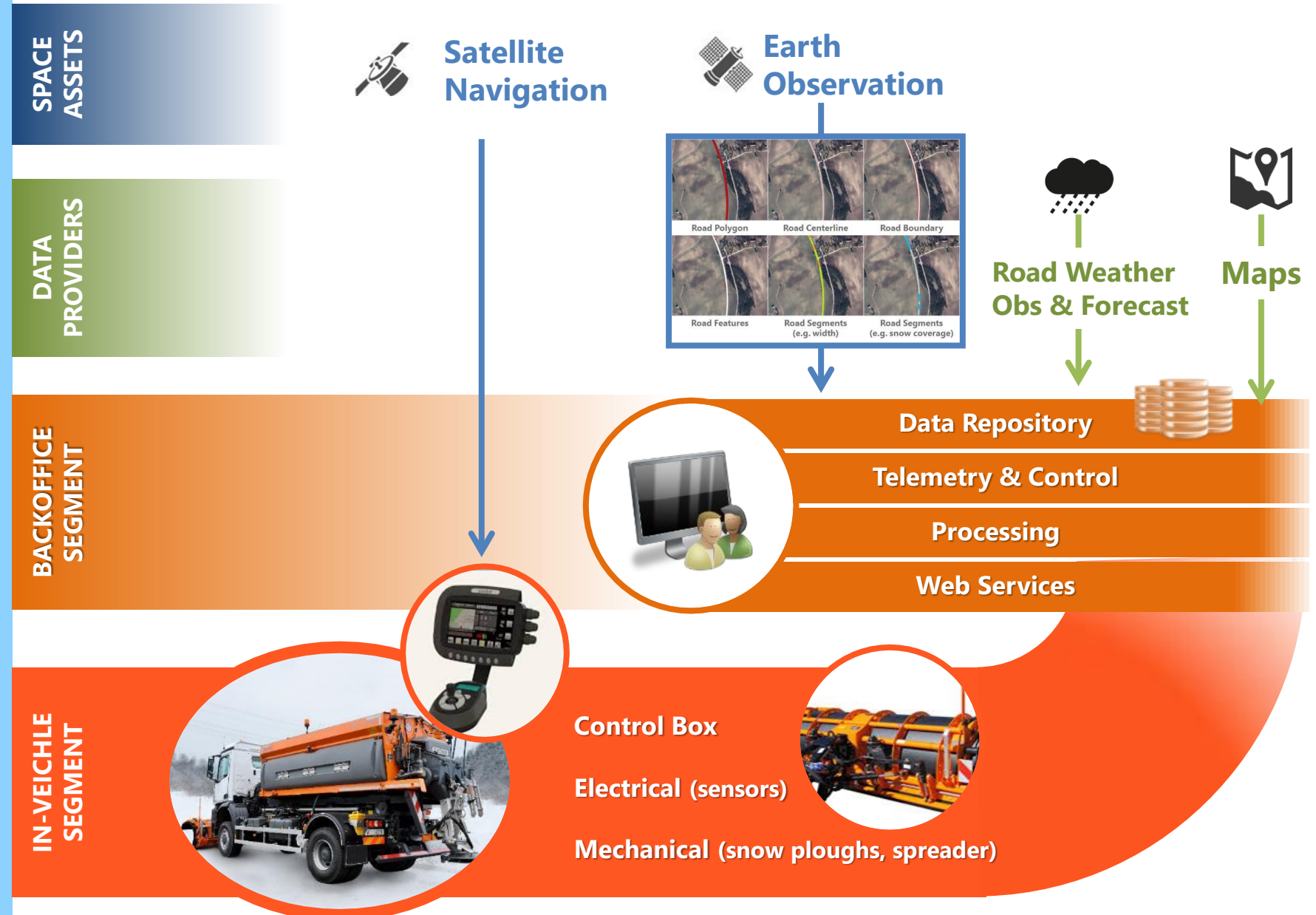
Satellite Navigation

Mass-market **GNSS** receiver plus low-cost **IMU**, novel coupling integration

- Precise and robust positioning

Cloud Computing

The solutions is based on a flexible cloud technology that enable to scale-up and down according to the seasonal needs



EUROPEAN WINTER MAINTENANCE MARKET

- A **vast** total and addressable market
- **11 countries** representing **more than 75%** of the overall fleet of vehicles
- A quite **concentrated market**, with the top two European players (Aebi Schmidt Nido and Giletta-Bucher) playing a key role

c. 30 000
EQUIPMENTS ADDRESSED

MARKET

European winter maintenance market, including also **Russian Federation** (for imported equipment only), considering both **snow ploughs** and **salt spreaders**.

TOTAL MARKET (2016 Forecasts)



- A stock of **more than 400,000** vehicles.
- Revenues for the first five European manufacturers amounted to c. **€200m in 2016**

ADDRESSABLE MARKET (2016 Forecasts)



- **New equipments: 13,472** units registered
- **Retrofit** (on last 5 years vehicles): **16,419** professional vehicles considered

TARGET MARKET



- **5 customers** at start of service
- About **30 customers** expected within 3 years

The overall fleet of vehicles is concentrated in some key countries



REVENUE MODEL AND COMMERCIAL OFFER

COMMERCIAL STRATEGY

- A revenue model based on both **product and service** and with **three revenue streams**
- **Two commercial packs** (Gold and Platinum), with different service features
- A different/ **customised pricing strategy** for:
 - New equipment or retrofit
 - Salt spreaders and snow ploughs

A PRICE

IN LINE WITH ADVANCED TECHNOLOGIES IN THE MARKET

PRODUCT AND SERVICE



Revenues from
control box and sensors



Revenues
from back-office services



Revenues
from after-sales services

TWO COMMERCIAL PACKS



Gold Pack Features

New Ecosat
Robust Positioning Unit
Middleware Services

Declined for
vehicle age
and type



Platinum Pack Features

New Ecosat
Robust Positioning Unit
Middleware Services
EO imagery, mapping services
and road weather data

ROADMAP

JOIN US AT...

- **INTERAIRPORT**
Munich | 10-13 Oct. 2017
- **SAL.VE ECOMONDO**
Rimini (Italy) | 7-10 Nov. 2017
- **PIARC**
GDANS | 20-23 Feb. 2018
- **IFAT**
Munich | 14-18 May 2018
- **APWA**
Indianapolis | 6-9 May 2018
- **Bucher Municipal Dealer Meeting**
Italy - 2018

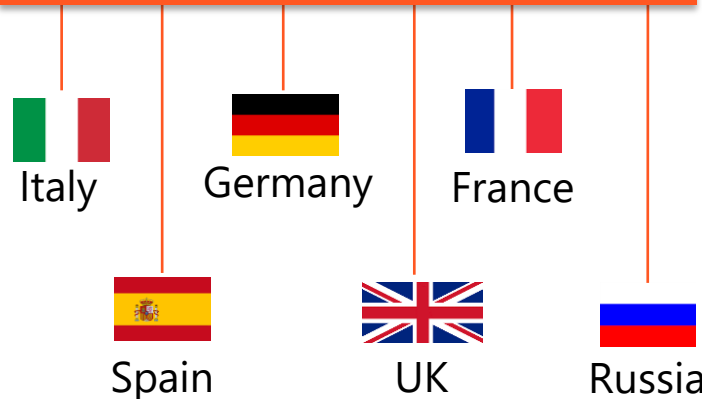


is **ready**
for market uptake
and customization!

Bucher Municipal
is the unique
commercial front-end
for ASSIST

BUCHER
municipal

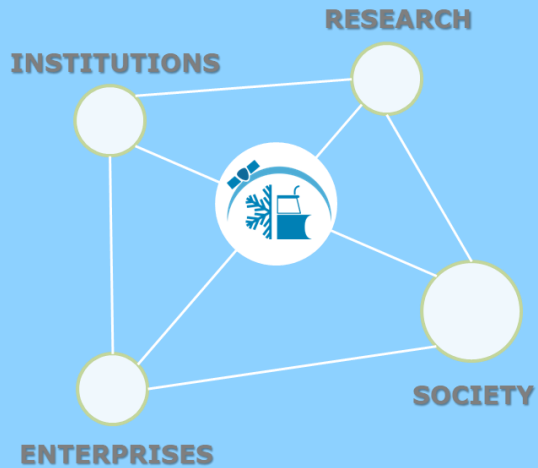
Its branches



Its network

20+ dealers
worldwide

BIG CHALLENGE, STRONG PARTNERSHIP



"Our mission is creating value-driven and socially relevant innovations in close collaboration with industry and institutions"
(ISMB)

CONCLUSIONS



Change of mindset in managing current WRM operation process

Awareness efforts towards decision makers, public administrations

Gold / Platinum commercial packs
(different service level, custom pricing strategy)

Limited pilot activities because of a «bad» winter season

«Early adopters» strategy
(possibly among pilot-demonstration users)

Export ASSIST concept to other domains
(e.g. agriculture, waste collectors, sweepers)

ESA's ARTES IAP as an opportunity




THANK YOU!

**ESA
Business Applications**

ARTES IAP Programme

National Delegations

Italian Space Agency (ASI) 

Austrian Research Promotion
Agency (FFG) 

**Engaged
Users/Stakeholders**

Swedish Transport
Administration (STA)

Norwegian Public Roads
Administration (NPRA)

CONTACTS



Follow ASSIST project on ESA Business Applications


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