



Enable. Accelerate. Deploy.

AutonomouStuff company overview

About AutonomouStuff

Vision

To **enable, accelerate and deploy the future of transportation** by significantly reducing development time of autonomy, driving our customers forward. We do this by bringing together the world's best technologies: products, engineering services, software and Data Intelligence.



Founded in 2010, headquartered in Morton, IL



Consistent, continuous growth



Thousands of customers worldwide



Globally recognized brand & strong worldwide presence



Acquired by Hexagon in September 2018





Hexagon | AutonomouStuff

About the acquisition:

- Hexagon acquired AutonomouStuff in September 2018.
- AS joined NovAtel, Antcom, VERIPOS and GPS Solutions in Hexagon's Autonomy & Positioning division (formerly the Positioning Intelligence division).
- Integration of AS led to creation of Hexagon's Smart Autonomous Mobility solutions portfolio.
- Press release announcing the completion of the acquisition distributed September 27, 2018 (https://bit.ly/3emJDsl).
- AS CEO Bobby Hambrick becomes Hexagon's Autonomy & Positioning division's Chief Autonomous Officer.













Hexagon



Hexagon

Empowering an autonomous future

Hexagon's business activities are conducted through more than 300 operating companies in about 50 countries world-wide.

We are transformation focused, with 10–12% of net sales invested in R&D.

- 3,800+ employees in R&D
- 3,700+ active patents

More than 20,000 employees across 50 countries

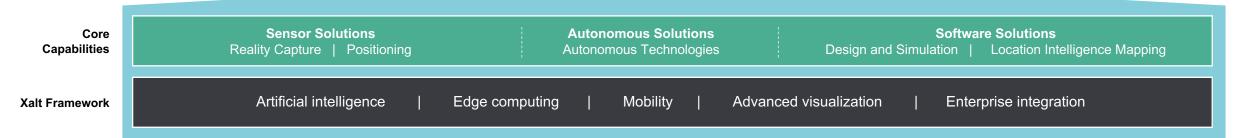
- 3.8 bn EUR in sales
- 25% operating margin



Portfolio overview

By putting data to work our smart solutions empower increasingly autonomous, connected ecosystems that drive sustainable value creation

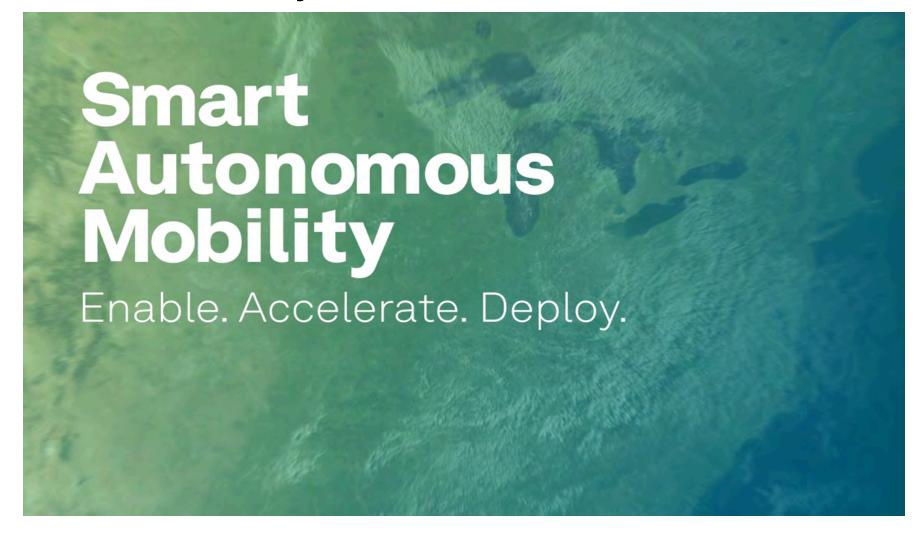
Production ecosystem Urban ecosystem Smart **Smart Smart Smart Buildings & Smart Solutions** Smart Smart Smart **Factories** Infrastructure **Cities & Nations** Industrial Mines **Farms Autonomous Facilities Mobility** Rapid startup at Minimum impact Optimised inputs Greater safety Optimised resources Always safe Fewer inputs lower cost Sustainable Safety prioritised Higher yields and Improved Safe, efficient Value Highest quality of life Zero waste Less rework less waste productivity Creation operations Maximum Perfect quality On plan, on time, on budget Sustainable economic growth Lower cost Maximum efficiency efficiency Longer lifespan







Smart Autonomous Mobility







Hexagon's Autonomy & Positioning division



Hexagon's Autonomy & Positioning division

A GLOBAL TECHNOLOGY LEADER

that is pioneering end-to-end assured autonomy and positioning solutions for land, sea, air.



We are the trusted partner, facilitating customized technical development and integration as well as providing expertise in specialized applications including safety of life.





History



NOVATEL

NovAtel's GPS legacy began in the early 1990s with a small dedicated group of geomatics engineers driven by the exciting possibilities of an emerging technology. NovAtel brought many achievements with them when it joined the Hexagon family in 2008, including Leica Geosystems as an OEM customer in early 2002.

AUTONOMOUSTUFF

AutonomouStuff started in 2010 as a very small company and has grown exponentially to become a world leader in autonomy systems. AutonomouStuff joined Hexagon in 2018.





Autonomy & Positioning division

ANTCOM

Antcom, a leader in designing and manufacturing a wide range of positioning, navigation, timing and communication antennas. Founded in 1996 and joined the Hexagon family through NovAtel in 2006.

GPS SOLUTIONS

GPS Solutions was established in 1991 and has been a part of the Hexagon family since 2016. GPS Solutions is a developer of GNSS data analysis software for the most accurate and challenging applications.



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VERIPOS

ANTCOM

VERIPOS started in 1989 and is considered one of the early innovators in the field of precise positioning due to their Ultra Precise Point Positioning (PPP) services. VERIPOS joined the Hexagon family in 2014.





AutonomouStuff





AutonomouStuff solutions



Products

Components & latest technologies



Services

Knowledgeable engineering services



Software

Modular-based software applications



Platforms

Automated platforms for R&D



Data Intelligence

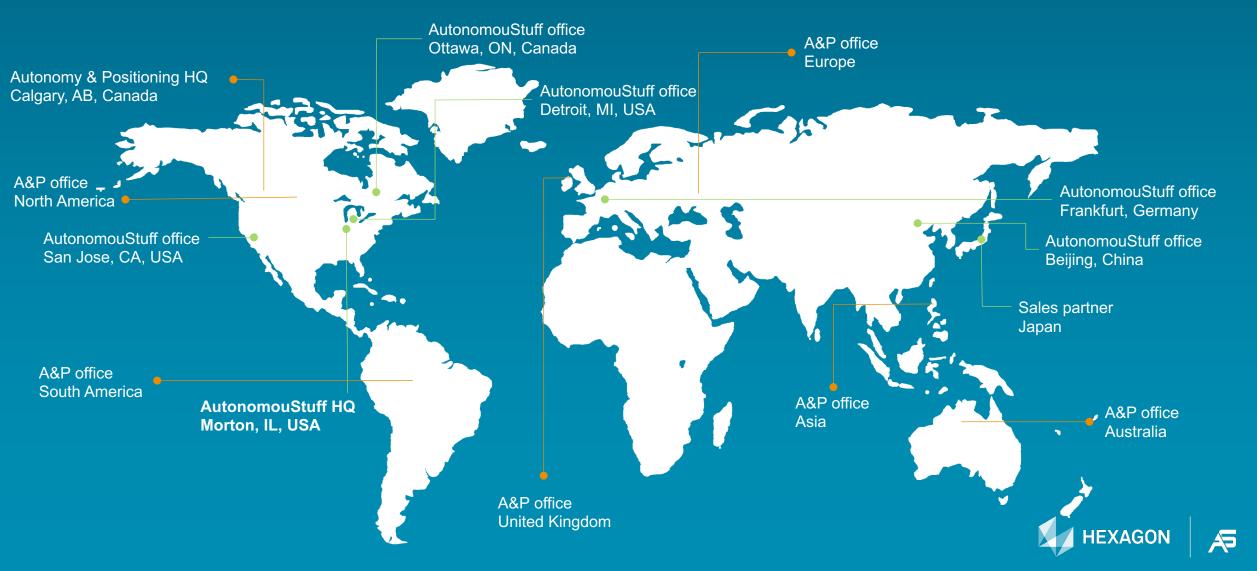
Build your own cloud infrastructure



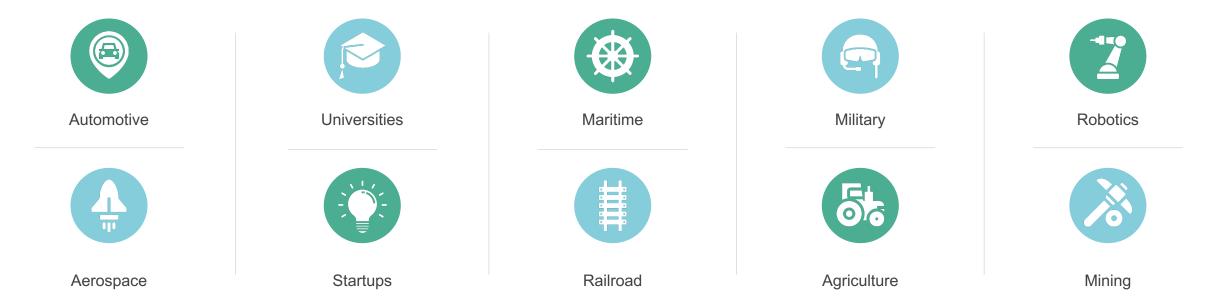


Strong global presence

Hexagon's Autonomy & Positioning division locations



Customers across all industries



AutonomouStuff serves customers across a variety of industries. We provide the best R&D platforms, products, software and engineering services to aide in the advancement of robotics and autonomy.





Supporting cutting-edge applications



Autonomous driving



Convoy/road-train



3D mapping



Remote control & monitoring



Security & safety



Object tracking & classification



Artificial intelligence



Robotics

AutonomouStuff's customers provide a variety of solutions.

Knowledge and experience are essential in mastering the challenge of automated driving. We are dedicated to transforming the transportation industry.





A fleet of R&D vehicles



Lincoln MKZ



Ford Fusion



Lexus RX 450h



Ford Mondeo



Ford Ranger



Chrysler Pacifica



Honda CRV



Toyota Minivan



Polaris GEM e2



Polaris GEM e4



Polaris GEM e6



Polaris GEM eL XD



Polaris Ranger



Ford Transit



Tractor



Freightliner Cascadia



International Pro-Star



Custom vehicle





Components of an automated vehicle

Driving autonomous R&D Lidar **GNSS** HD camera antenna **DSRC GNSS** Infrared camera receiver Safe by-wire IMU controls Production **ECU HEXAGON** ShorePower Teleoperation AUTONOMOUSTUFF

Ultrasonic sensor system

Radar

Lidar

Radar

Lidar

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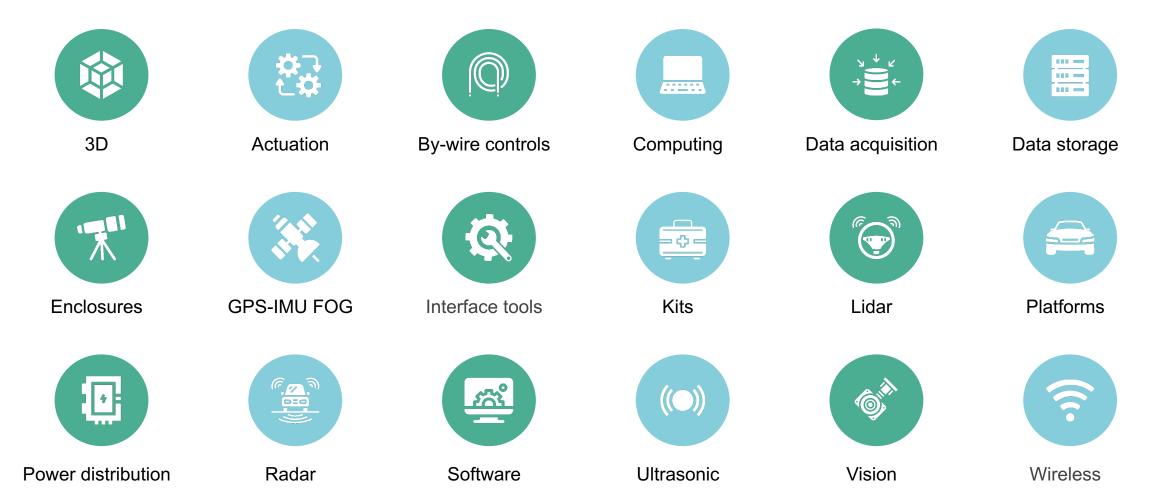




Data storage

Radar

Providing the industry's best products







Tailored services



Integration services



Engineering services



Consulting



Value-added services

We provide components, engineering services and software that enable research and development in the autonomous industry. Our engineering services and ability to integrate best in class components are second to none.





State-of-the-art software



Highway automation



Lidar Object **Processing**



Shuttle automation



Speed & steering control

We are recognized by the automotive and robotics industries as leaders in developing platforms (middleware and software applications). We are leading the development of autonomous vehicles that work with a large network of partners to provide the world's most advanced software solutions.





Software solutions



AS Software:

- Lane centering
- Stop & go
- Lane change
- · Shuttle automation
- Speed & steering controls
- · Camera based localization
- Lidar object processing
- · Multi-sensor, localization-state estimation
- · Adaptive cruise control



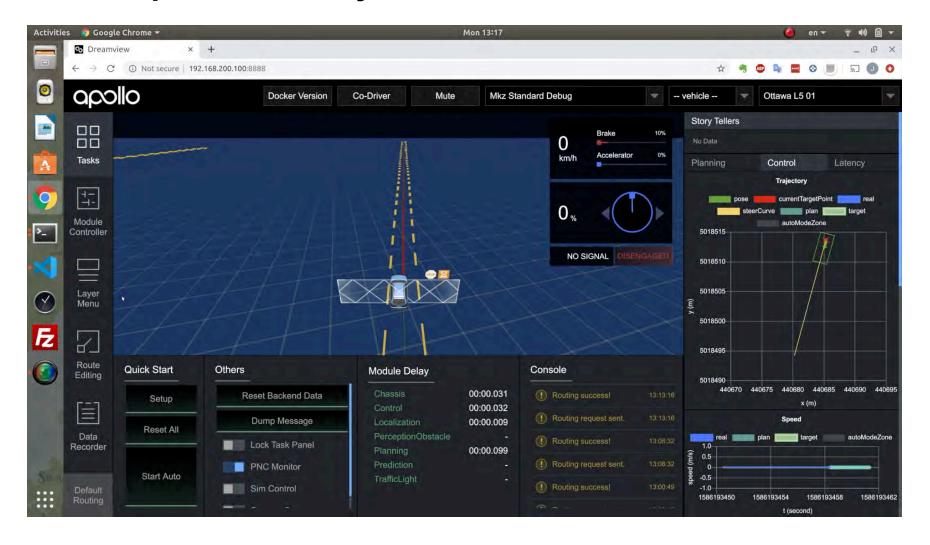
Partner Software:

- ROS integration
- HERE maps
- NVIDIA DriveWorks
- Kaarta Lidar localization
- Tier IV Autoware
- ibeo sensor referencing suite
- Baidu Apollo complete stack
- NovAtel GPS/GNSS post processing
- Designated Driver teleoperation





Apollo 5.5 with Open Autonomy Pilot







Cores of Data Intelligence



Data acquisition & storage



Data classification & labeling



Application development



Simulate, drive & test

We help our customers by providing high performing economical storage solutions, sensor truth benchmarking, simulation expertise, data tagging/annotation expertise, data mining tools, mapping and many other areas.





Autonomous vehicle workflow

The research and development cycle

















Data acquisition

- Sensor integration
- Sensor calibration
- Sensor logging
- Image capture
- Storage

Data classification & labeling

- Manage data lifecycle
- Tagging/annotation
- Sensor truth
- Deep learning OD training
- Map creation

Application development

- Sub-system development
- Deep learning OD inferencing
- Watchdog application
- Security
- Compliance

Simulate, drive and test

- SIL/HIL full simulation
- Vehicle integration
- Validation









