Hexagon Overview
February 2021
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Leading a revolution
The road to autonomy
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I. Our story
Global leader in **sensor**, **software**, and **autonomous** solutions committed to

**empowering an autonomous future**
Leading a revolution
From automation to autonomy

Autonomy is the ultimate form of putting data to work

Efficiency  Automation  Autonomy

MECHANISATION  MASS PRODUCTION  AUTOMATED PROCESSES  HYPER-CONNECTIVITY
The road to autonomy
Enabled by our unique set of core competencies

We digitally **CAPTURE** and **POSITION** the physical world

**SENSOR SOLUTIONS**
data capture

**AUTONOMOUS SOLUTIONS**
data leverage

**SOFTWARE SOLUTIONS**
data intelligence

We fuse the physical and digital worlds and leverage the power of algorithms to achieve **AUTONOMY**

We digitally **DESIGN** assets, **SIMULATE** real-world scenarios, and deliver situation awareness with **LOCATION INTELLIGENCE**
The Smart Digital Reality™
Our unique point of leverage – convergence of the physical and digital

DIGITALLY ACCESSIBLE
Seamless digital access to any physical world data

INFINITELY CONNECTED
Able to draw and act on multiple data sources simultaneously

AUTONOMOUSLY INTELLIGENT
Able to make unaided decisions and become smarter over time
II. Our business
Our focus is on autonomy
Leveraging data to its fullest potential is the outcome we want – moving beyond automation to autonomy.

Our commitment is to innovation
With nearly 4,000 employees in R&D and more than 3,700 active patents our technology leadership is clear.

Our value is strategically vital
Efficiency, productivity and quality results in scalable sustainability – fewer resources, less waste, less pollution.

Our stability is consistently proven
Sales growth from €500 million in 2000 to €3.8 billion in 2020 with approximately 21,000 employees across 50 countries.
Fast tracking innovation

We invest heavily in R&D to accelerate innovation, spending 10–12% of net sales.

Did you know?

Not only is Hexagon one of the world’s largest R&D spenders but also a High-Leverage Innovator – the 9% of global companies which financially outperform industry peers while spending less on R&D.

– The 2018 Global Innovation 1000 study, PwC

The Data Leverage Gap is where Hexagon innovation is focused.
Futureproofing solutions

One of our major R&D initiatives is the continuous development and implementation of a technology framework called Xalt, which is being actively deployed and will eventually underpin all of our solutions—making them faster, easier to use, more connected, and autonomously intelligent.

Xalt framework:

- Artificial intelligence
- Edge computing
- Mobility
- Advanced visualisation
- Enterprise integration
Customers served
Ecosystems vs. markets

Production

Agriculture
Sugar cane
Forestry
Grains

Mobility
Personal and public transport
Unmanned (aerial, ground, marine)

Buildings and Infrastructure
Heavy construction
Buildings
Surveying

Cities and Nations
Public safety
Utilities
Transportation

Industrial Facilities
Oil & gas
Pharmaceutical
Power
Chemical
Shipbuilding
Metals & mining

Manufacturing
Automotive
Aerospace
Electronics
Medical devices

Mining
Coal
Metals
Minerals

Urban

Hexagon Overview
Our mantra: Do **well** to do **good**

We believe growth doesn’t have to be at the expense of the planet.

When we do well – boosting efficiency, productivity, and quality outcomes at *scale* – we do good for the planet.

**Scalable Sustainability**

Sustaining growth for our businesses, as well as this ecosystem we all share.
III. Our solutions
# Core Competencies overview

The foundation for our Smart Solutions Portfolio

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**REALITY CAPTURE TECHNOLOGIES**

Digitalise the physical world with measurement, 3D models, monitoring, and surveillance

**POSITIONING TECHNOLOGIES**

Locate, track, navigate and/or control anything, anywhere (machines, objects, vehicles, etc.)

**AUTONOMOUS TECHNOLOGIES**

"Autonomise" any task, process, or workflow – or entire operation

**DESIGN AND SIMULATION TECHNOLOGIES**

Replicate real-world scenarios in virtual environments with computer-aided design, simulation, and predictive modeling

**LOCATION INTELLIGENCE TECHNOLOGIES**

Enable active, geo-referenced, situational intelligence for any application
# Smart Solutions Portfolio overview

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

## Production ecosystem

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<td>Smart Cities &amp; Nations</td>
<td>Safety prioritised</td>
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## Urban ecosystem

- **Optimised resources**
- **Greater safety**
- **Optimised inputs**
- **Minimum impact**
- **Optimised technologies**
- **Optimised technologies**
- **Optimised resources**
- **Optimised inputs**
- **Always safe**
- **Highest quality of life**

- **Rapid startup at lower cost**
- **Safety prioritised**
- **Higher yields and less waste**
- **Safe, efficient operations**
- **Minimum impact**
- **Optimised inputs**
- **Greater safety**
- **Optimised inputs**
- **Always safe**
- **Highest quality of life**

- **Perfect quality**
- **Minimum impact**
- **Optimised inputs**
- **Greater safety**
- **Optimised inputs**
- **Always safe**
- **Highest quality of life**

- **Longer lifespan**
- **Zero waste**
- **Safety prioritised**
- **Improved productivity**
- **Optimised inputs**
- **Maximum efficiency**
- **Highest quality of life**
- **Sustainable economic growth**
- **Longer lifespan**
- **Zero waste**
- **Safety prioritised**
- **Improved productivity**
- **Optimised inputs**
- **Maximum efficiency**
- **Highest quality of life**

- **Optimised resources**
- **Greater safety**
- **Optimised inputs**
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- **Lower cost**
- **Safe, efficient operations**
- **Minimum impact**
- **Optimised inputs**
- **Greater safety**
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- **Always safe**
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- **Higher yields and less waste**
- **Safe, efficient operations**
- **Minimum impact**
- **Optimised inputs**
- **Greater safety**
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- **Lower cost**
- **Safe, efficient operations**
- **Minimum impact**
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- **Maximum efficiency**
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- **Highest quality of life**
Smart Manufacturing

that learns and adapts quickly to changing conditions in real time, pursuing perfect quality with optimised design, requiring fewer inputs and producing zero waste.

Did you know?
Each year, Hexagon technology touches:

- 75% of cars produced
- 90% of aircraft produced
- 85% of smartphones produced

We have expertise in and connect all stages of the manufacturing lifecycle:

DESIGN AND ENGINEERING (CAE)
Optimise designs and ensure manufacturability

PRODUCTION (CAD/CAM)
Deliver on design intent and product quality with minimal waste

METROLOGY HARDWARE/SOFTWARE
Capture real-world data for positioning and inspection

SUSTAINABLE VALUE CREATION
- Fewer inputs
- Zero waste
- Perfect quality

PRIMARY APPLICATIONS
- Automotive
- Aerospace
- Electronics
- Medical
- Heavy industry
- Power & energy
Smart Industrial Facilities

that ramp up quickly while operating safely and reliably throughout a more sustainable, longer-term lifespan

Did you know?

Over half of all oil, gas, and chemicals products worldwide are delivered more efficiently due to Hexagon technology.

We have expertise in and connect all stages of the engineering lifecycle:

- **ANALYSIS**
  Automating manual, time-consuming tasks into seamless processes

- **ENGINEERING & SCHEMATICS**
  Intelligent facility engineering

- **3D DESIGN & VISUALISATION**
  True workflow-managed integration

- **PROCUREMENT, FABRICATION & CONSTRUCTION**
  Saving valuable production time

- **PROJECT CONTROLS & PORTFOLIO MANAGEMENT**
  Budgeting/forecasting for optimal performance

- **ASSET INFORMATION MANAGEMENT**
  Enabling electronic organisation of facility data

SUSTAINABLE VALUE CREATION

- Rapid startup at lower cost
- Safe, efficient operations
- Longer lifespan

PRIMARY APPLICATIONS

- Oil and gas
- Power
- Shipbuilding
- Pharmaceutical
- Chemical
- Metals and mining
Hexagon Overview

Smart Mines

that are efficient to operate, while maximising safety and minimally impacting the environment throughout the life of a mine

Did you know?

Hexagon is the only company to solve surface and underground challenges with proven technologies for planning, operations, and safety.

We have expertise in and connect all stages of the mining lifecycle:

**PLANNING**
Geology, engineering and production suites for exploration, modeling, design, scheduling, & operation

**OPERATIONS**
Fleet management, machine guidance, & operator assist

**SAFETY**
Collision avoidance, vehicle intervention, fatigue monitoring and personal protection

**ENTERPRISE**
Connecting processes and converting data into real-time information for proactive mine management

**SURVEY & MONITORING**
Slope stability monitoring and mine measurement systems

SUSTAINABLE
VALUE CREATION
• Minimum impact
• Safety prioritised
• Maximum efficiency

PRIMARY APPLICATIONS
• Base metals
• Precious metals
• Energy minerals

SUSTAINABLE
VALUE CREATION
• Minimum impact
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PRIMARY APPLICATIONS
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HEXAGON
Smart Farms
that cultivate data in ways that will optimise inputs and drive higher yields while lowering costs.

Did you know?
Nearly one-quarter of the world’s greenhouse gases come from agriculture, forestry and land use changes, and Hexagon is working with the industry to lower this impact simply by putting data to work.

We have expertise in and connect all stages of the agriculture lifecycle:

**CULTIVATION**
Optimising and automating entire crop cycle (planning, soil preparation, planting and cultivation)

**HARVESTING**
Optimisation and automation of logistics operations, from harvest to transportation

**ORIGINAL EQUIPMENT MANUFACTURER (OEM)**
Custom solutions for machines, tractors and agricultural implements tailored to each partner’s needs

**SUSTAINABLE VALUE CREATION**
- Optimised inputs
- Higher yields and less waste
- Lower costs

**PRIMARY APPLICATIONS**
- Sugar cane
- Forestry
- Grains
Smart Autonomous Mobility
that is reimagining autonomous transportation
with sustainability in mind – ensured safety,
clean and more efficient

SUSTAINABLE
VALUE CREATION
• Greater safety
• Improved productivity
• Maximum efficiency

PRIMARY
APPLICATIONS
• Personal and public transport
• Unmanned (aerial, ground, marine)

Did you know?
Hexagon has delivered more
safe, reliable autonomous driving
research vehicles than any other
company in the world.

We enable, accelerate and deploy autonomous mobility:

ENABLE
Provide comprehensive autonomy
development solutions with all necessary
hardware/software components for
autonomous driving designs in complex
environments

ACCELERATE
Facilitate a seamless workflow between real
and simulated worlds to optimize, verify and
validate

DEPLOY
Quickly scale from prototype and R&D phases
to production
Did you know?

Hexagon’s technologies helped build:

- The world's longest railway tunnel (Gotthard Base Tunnel, Swiss Alps)
- The world's tallest tower (Burj Khalifa, Dubai)
- The world's widest suspension bridge linking two continents (Yavus Sultan Selim Bridge, Istanbul)

We have expertise in and connect all stages of the asset lifecycle:

**DESIGN & ENGINEERING**
Feasibility analysis; estimation and project planning; surveying, mapping; procurement and contracting

**CONSTRUCTION & DELIVERY**
Computer-aided design (CAD); building information modeling (BIM) planning and scheduling; project controls; digital layout; machine automation; construction management; progress documentation, as-built

**OPERATIONS & MAINTENANCE**
Asset management, repairs, renovation, and monitoring & surveillance

**SUSTAINABLE VALUE CREATION**
- Optimised resources
- Less rework
- On plan, on time, on budget

**PRIMARY APPLICATIONS**
- Heavy construction
- Buildings
- Surveying
Smart Cities & Nations

where governments, industry, and citizens work together to build safe and vibrant communities that promise the highest quality of life and sustainable economic vitality

SUSTAINABLE VALUE CREATION
• Always safe
• Highest quality of life
• Sustainable economic growth

PRIMARY APPLICATIONS
• Public safety
• Utilities
• Transportation
• Land management
• Defence & intelligence
• Geospatial content

Did you know?

Over half of the earth’s geospatial imagery is either collected, processed or used with Hexagon’s solutions (sensors/software/solutions) and almost 1bn people on the planet are protected by Hexagon’s public safety solutions.

Our solutions power cities and nations, keeping them safe and resilient:

DIGITAL CITY
3D digital capture (above and below ground) of city environments and surrounding landscapes to enable management, positioning and monitoring of infrastructure and other asset

PUBLIC SAFETY
Call-taking, dispatch, major incidents, investigations, & law enforcement

DEFENCE SOLUTIONS
Image exploitation, geoprocessing, location data analysis and intelligence creation

LOCATION INTELLIGENCE
Real-time geospatial visualisation and analysis for any application (including crowdsourcing citizen reporting and participation)
IV. Our experts
Mapping Hexagon’s domain expertise

Smart Solutions experts

**Smart Mines**
Mining
Life of mine solutions

**Smart Manufacturing**
Manufacturing Intelligence
Design and engineering, production, and metrology solutions

**Smart Industrial Facilities**
PPM
Design, construction and operation solutions

**Smart Farms**
Agriculture
Cultivation, harvesting and transport logistics solutions

**Smart Autonomous Mobility**
Autonomy & Positioning
Autonomous vehicle and positioning solutions

**Manufacturing Intelligence**
Autonomous vehicle simulation software

**Smart Buildings & Infrastructure**
Geosystems
Life of heavy infrastructure project solutions
Life of building solutions

**PPM**
Building construction solutions

**Smart Cities & Nations**
Safety and Infrastructure
Public safety, utilities, and transportation solutions

**Geospatial**
Geospatial products, solutions and applications for any industry and defence, aviation, maritime and transportation-specific solutions

**Geosystems**
Reality capture technologies and solutions
Digital city/nation mapping content and services
V. Our approach
Purpose is good.

Shared purpose is better.

We see customers as co-creators of the smart solutions we deliver.

Putting data to work to boost efficiency, productivity, and quality outcomes is a purpose that we share with you.
Thank you.

HEXAGON
empowering an autonomous future
Our Vision.
A future where data is fully and autonomously leveraged so that business, industry and humanity sustainably thrive.

Our Mission.
Putting data to work to enable autonomous, connected ecosystems that boost efficiency, productivity, and quality for our customers.
Our Core Values

**Profit-driven**
We value sustainable profitability, performance over procedure, setting measurable goals and working collectively to achieve our financial targets.

**Entrepreneurial**
We’re confident we have what it takes to achieve our ambitious vision. We take ownership in dreaming big, trying new things and pushing for progress.

**Engaged**
We seek personal fulfillment by doing great work while enjoying what we do. We lead with a sense of urgency, without prejudice or politics.

**Professional**
We are honest professionals who understand the importance of knowing our business, leading by example and demonstrating humility along the way.

**Innovative**
We invest heavily in innovation to meet our customers’ ever-changing needs, with laser-like focus on creating sustainable businesses that benefit humanity.

**Customer-focused**
We know our customers’ success is paramount to our own, and we are dedicated to driving efficiency, productivity and quality for everyone we serve.