



Atlas Copco Vacuum Technique

Capital Markets Day 2017
Geert Follens, Business Area President



Agenda

1 Facts in brief

2 What is Sustainable Profitable Growth

3 Customer Advantage

- 1 Technology Leadership
- 2 Service Connectivity
- 3 Abatement Technologies
- 4 China, Integrated Circuit Industry

4 Summary



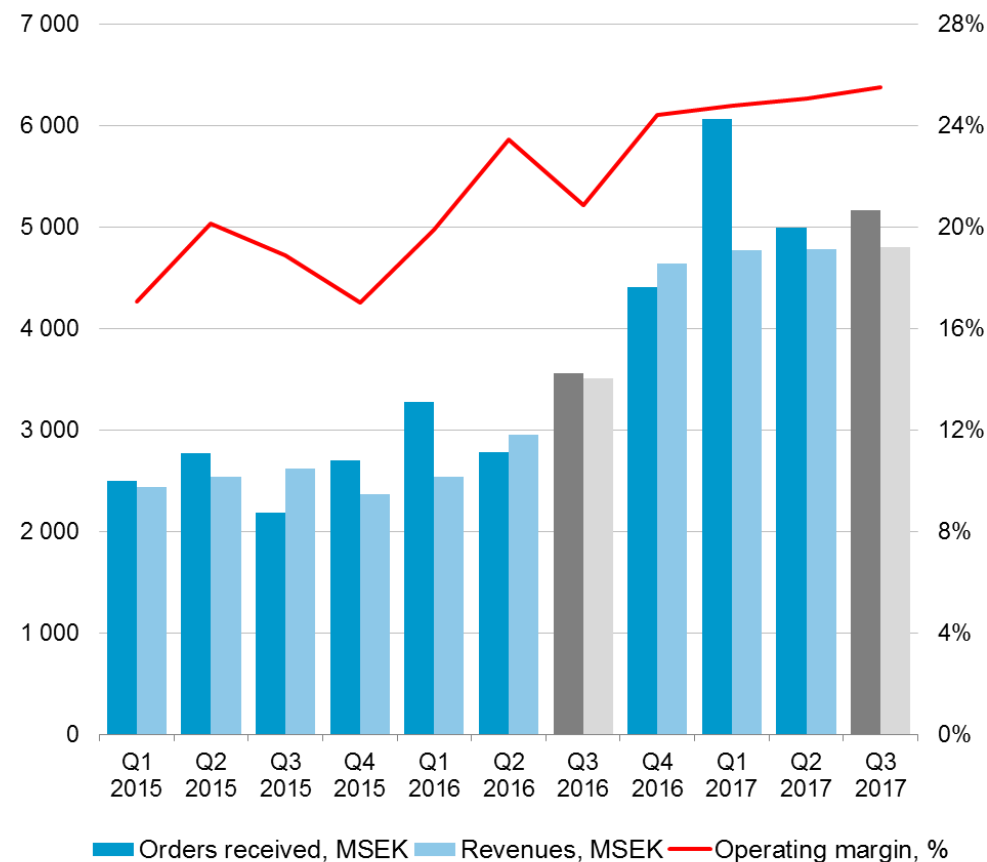
Vacuum Technique

ROCE
24%

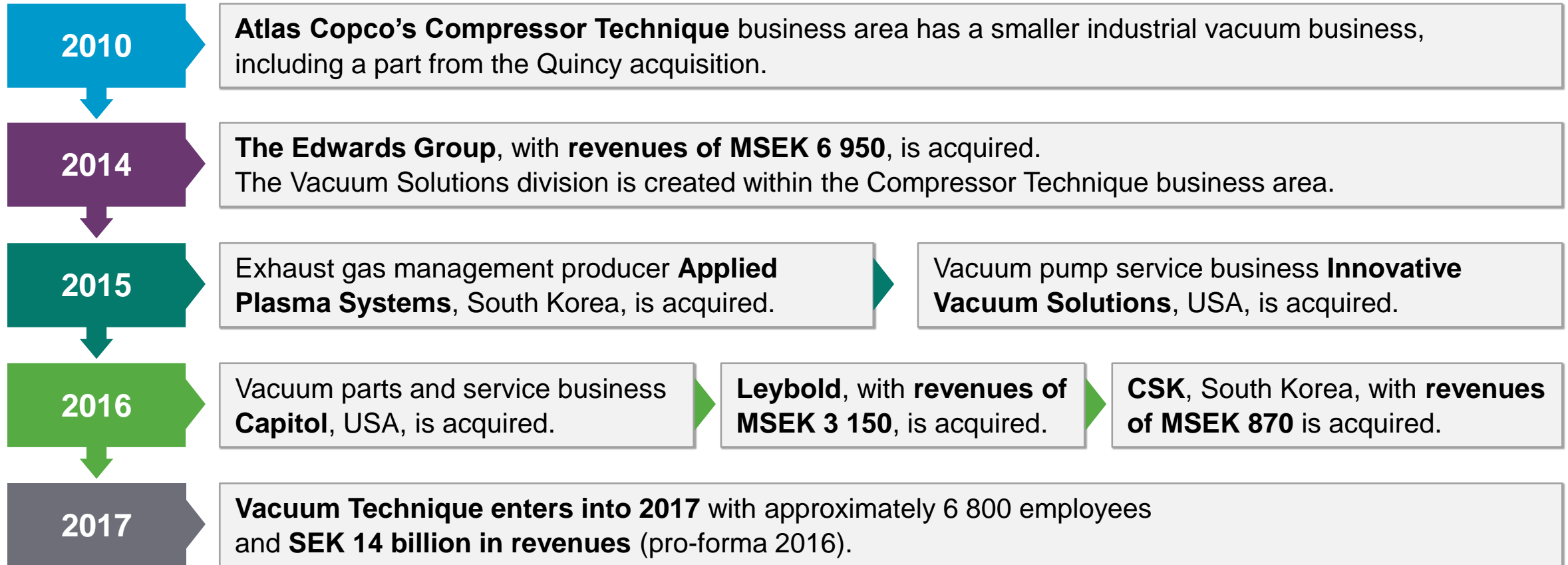
Growth drivers

- Successful integration of acquisitions
- Embedding of decentralized organizational structure
- Improve agility and resilience
- Leverage synergies with other business areas and the Group
- Innovation and digitalization

Orders, revenues and operating margin



Facts in brief: Timeline

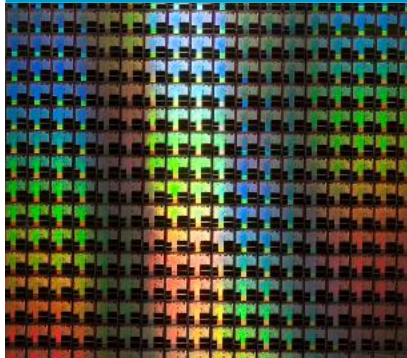


Facts in brief: Vacuum Technique

Vacuum products



Semiconductor



Flat panel displays



Solar panels



Metallurgy



Exhaust management systems



Food & beverages



Packaging



Conveying and assembly



...and more



Facts in brief: Brand portfolio management

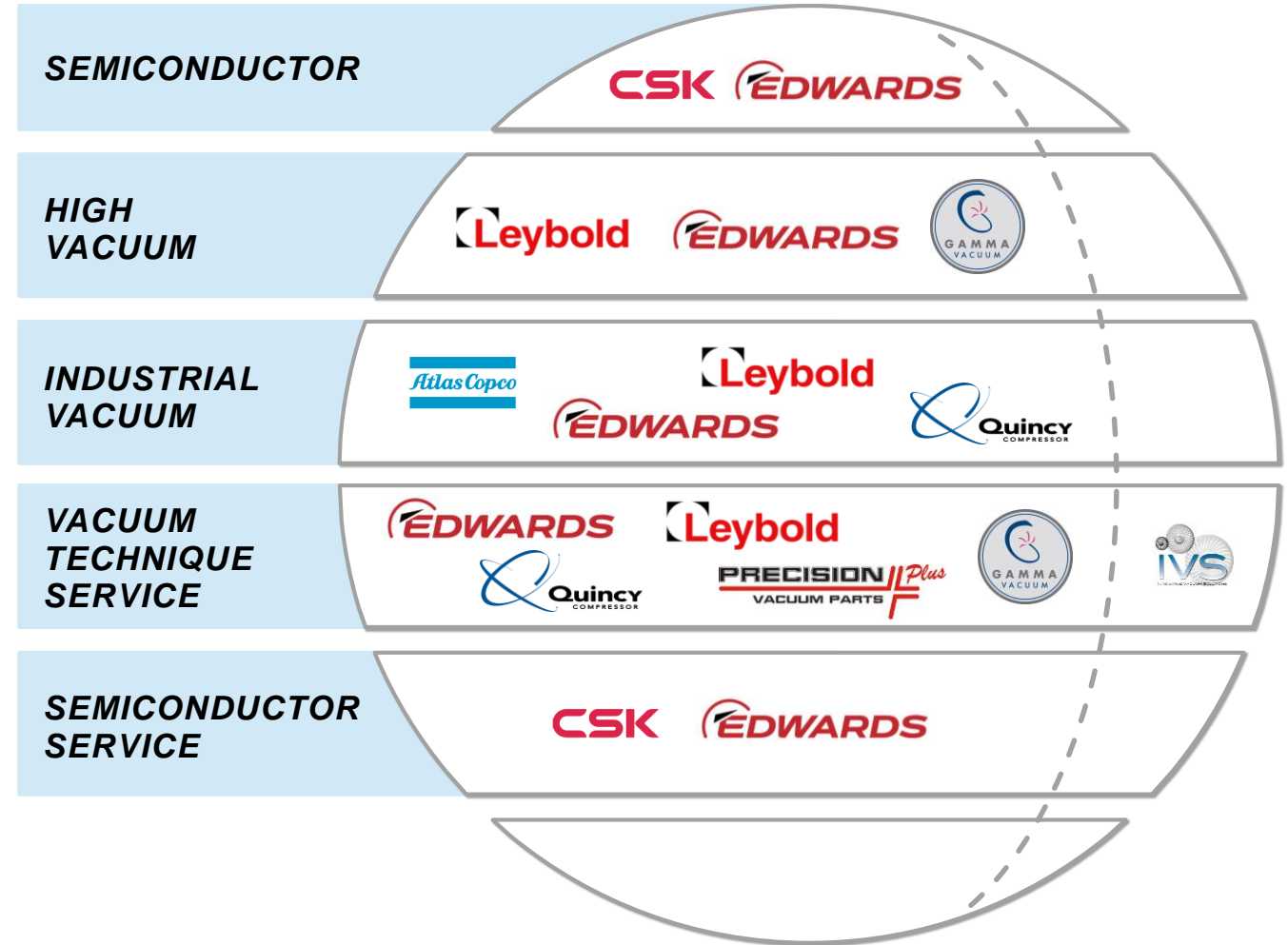
Excellence in brand portfolio management

9 Brands in Vacuum Technique

Atlas Copco vacuum brand provides good growth opportunity

VTS has highest number of brands creating increasing customer choice but higher complexity

All brands developed equally



What is sustainable profitable growth

Growth Drivers Macro Factors:

- Climate change
- Miniaturization
- Digitalization
- Urbanization

Micro Factors:

- China Investment
- Internet of Things & Artificial Intelligence
- High demand for increasing process efficiency








Vacuum & Abatement Technology

- Technology Leadership
- Application know-how
- Speed to market

Market Leadership

- World-class Key Account Management
- Application based solutions delivered through technology leadership
- Extensive Aftermarket
- Lean hi-tech manufacturing close to our customer base

Impact of growth drivers

| Business sector | Key drivers of change | Market Growth |
|--------------------------|---|---|
| Semiconductor | Miniaturization, Legislation, China |  |
| High Vacuum | Application based solutions delivered through technology leadership |  |
| Industrial Vacuum | High demand for increasing process efficiency |  |
| Semiconductor Service | Digitalization, Legislation |  |
| Vacuum Technique Service | Digitalization, Brand Management |  |

Driving sustainable profitable growth



- Attack new opportunities with competencies gained from market leadership
- Protect the core business (heartlands) by incremental growth from new product development
- Acquisitions

Drivers for delivering market leadership

1 Favorable global mega trends



Climate change
Miniaturization
Urbanization
Focus on corporate social responsibility

2 Increased legislation



Energy + Fuel efficiency
Emission regulations
Resource + Labor utilization
Lifestyle + Healthcare targets

3 Increased investment in core markets

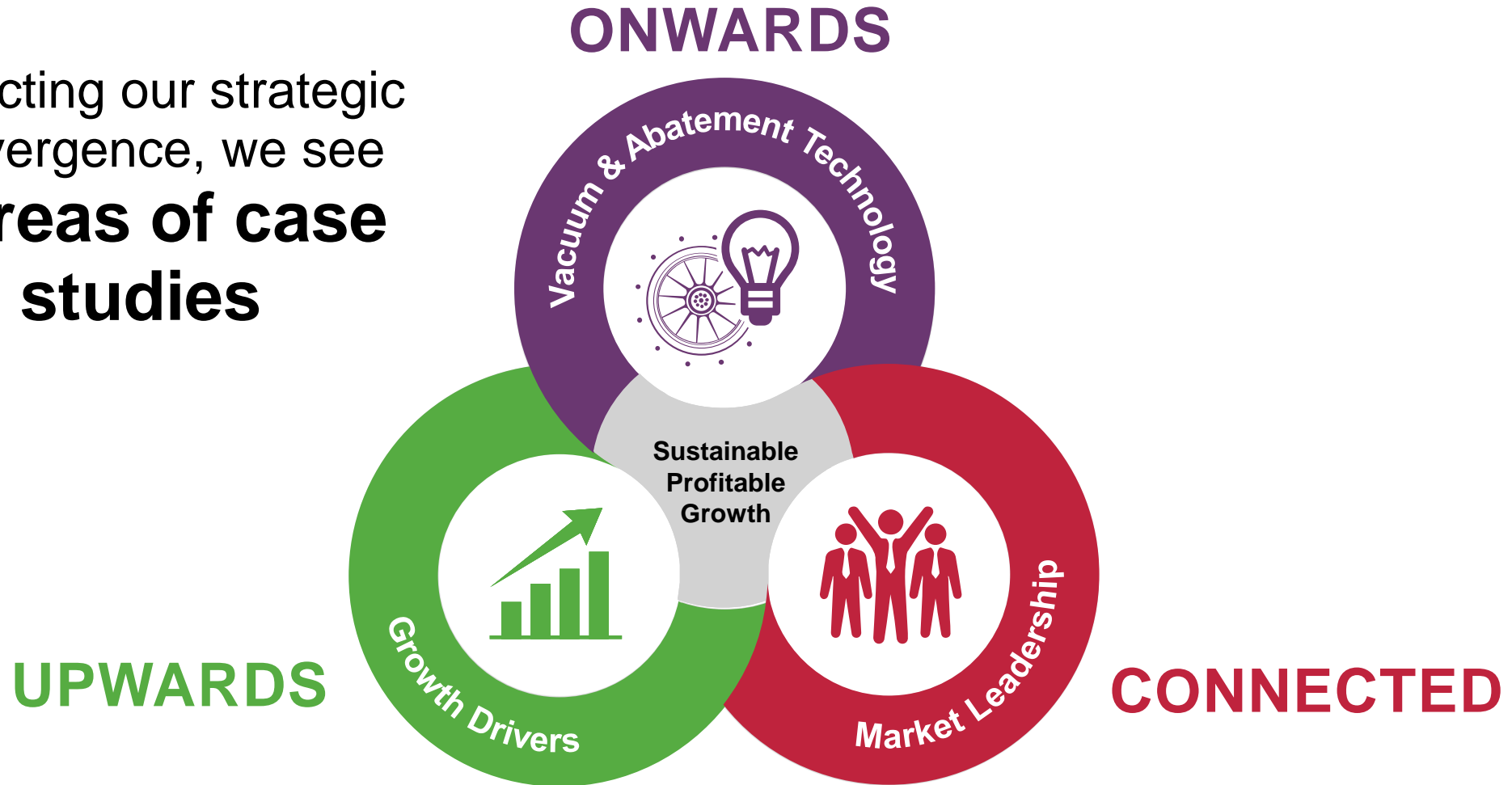


Consumers demanding higher technology
Vacuum technology amplification
Capture opportunities in adjacent markets

***Demonstrating customer advantage
'sustainable productivity in action'***

Customer advantage

Reflecting our strategic convergence, we see
3 areas of case studies





Vacuum & abatement technology

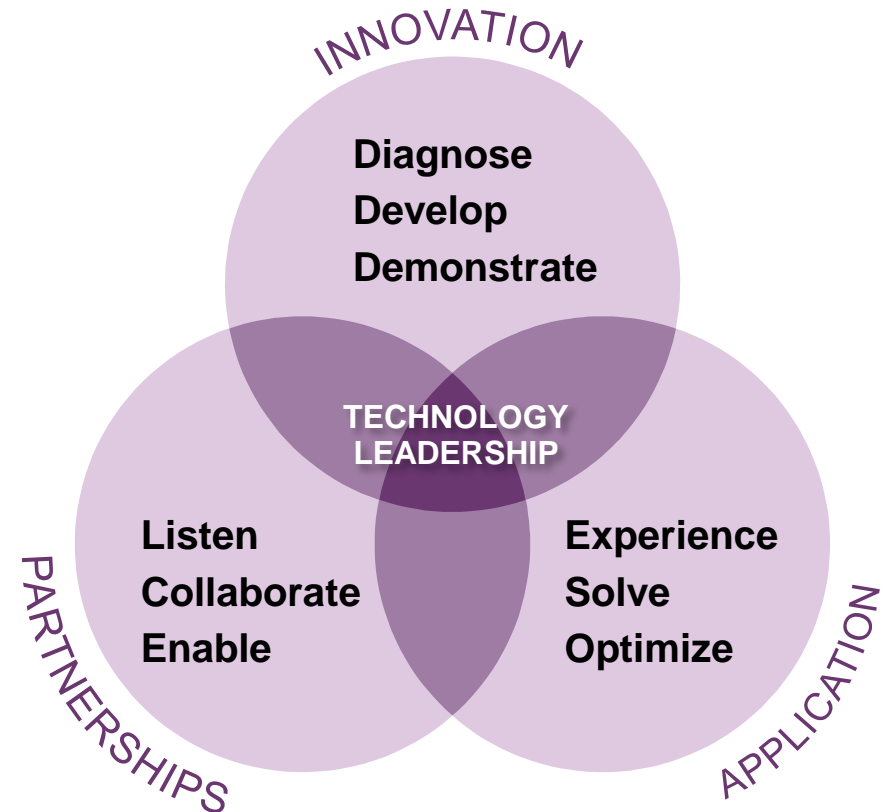
Our approach to technology Leadership:

■ Innovation drivers

- Total cost of ownership
- Environmental challenges
- Noise & footprint
- Technology changes

■ Success factors

- Long-term collaboration with customers
- Proven results – for customers across all core industries
- Partnerships with demanding customers as well as with industry and academic groups



Vacuum & abatement technology



Clean and energy efficient. Saving 50% on energy.



Silent operation. Reduces vibration and improves employee working environment.



Increases production speeds by up to 10%.



Extends service intervals and reduces maintenance costs.



Best in class for overall reduced environmental impact.

Service connectivity – EdCentra



CONNECTED



Enabling innovation by supporting rapid introduction of new and harsh processes and new sub-fab equipment.

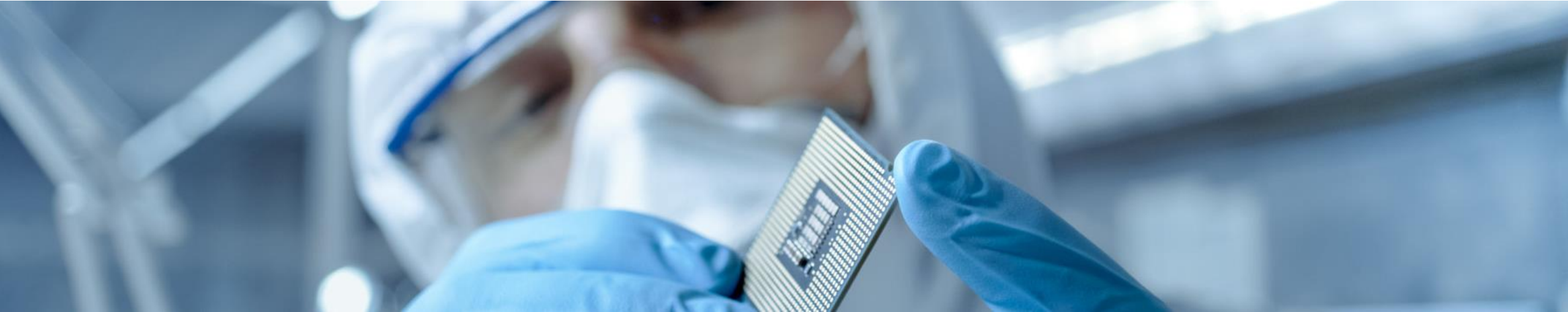


Predict potential failure modes through intelligent monitoring of equipment and condition-based in sub-fab.



Supporting compliance with local and international regulatory requirements e.g. green mode reporting.

Abatement technologies



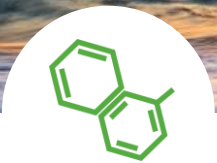
ABATEMENT SOLUTIONS ARE CRITICAL TO THE SUB-FAB

A semiconductor fabrication plant (FAB) is where semiconductor devices are manufactured.

There are two classifications of companies that own/operate fabs:

- Integrated Device Manufacturers (IDMs)
- Dedicated Foundries

Abatement case story: A cleaner world



Destruction of carbon-based PFC compounds to manage non-methane hydro-carbons.



Destruction of gaseous Fluorine based compounds to prevent release of “reactive F” to the air environment.



Destruction of gaseous ammonia to prevent release to water environment.



Minimize NOx production as this will need expensive specialized facilities (scrubbers) if limits are exceeded.



Solids removal is important to manage – these compounds are a hazard to operators and to the environment.

Environmental compliance (China)



Convergence of global and national legislation creates new opportunities.



China is undergoing rapid growth in its electronics sector.



China has made commitments to reduce the CO₂ emissions/unit GDP by 60-65% from the 2005 level by 2030.



Includes key sectors such as iron and steel, power generation, building materials, paper making, and non-ferrous metals.



The target gases are CO₂, CH₄, N₂O, HFCs, PFCs and SF₆.



China will be committed to reducing GWG releases to the environment.

China: Our response

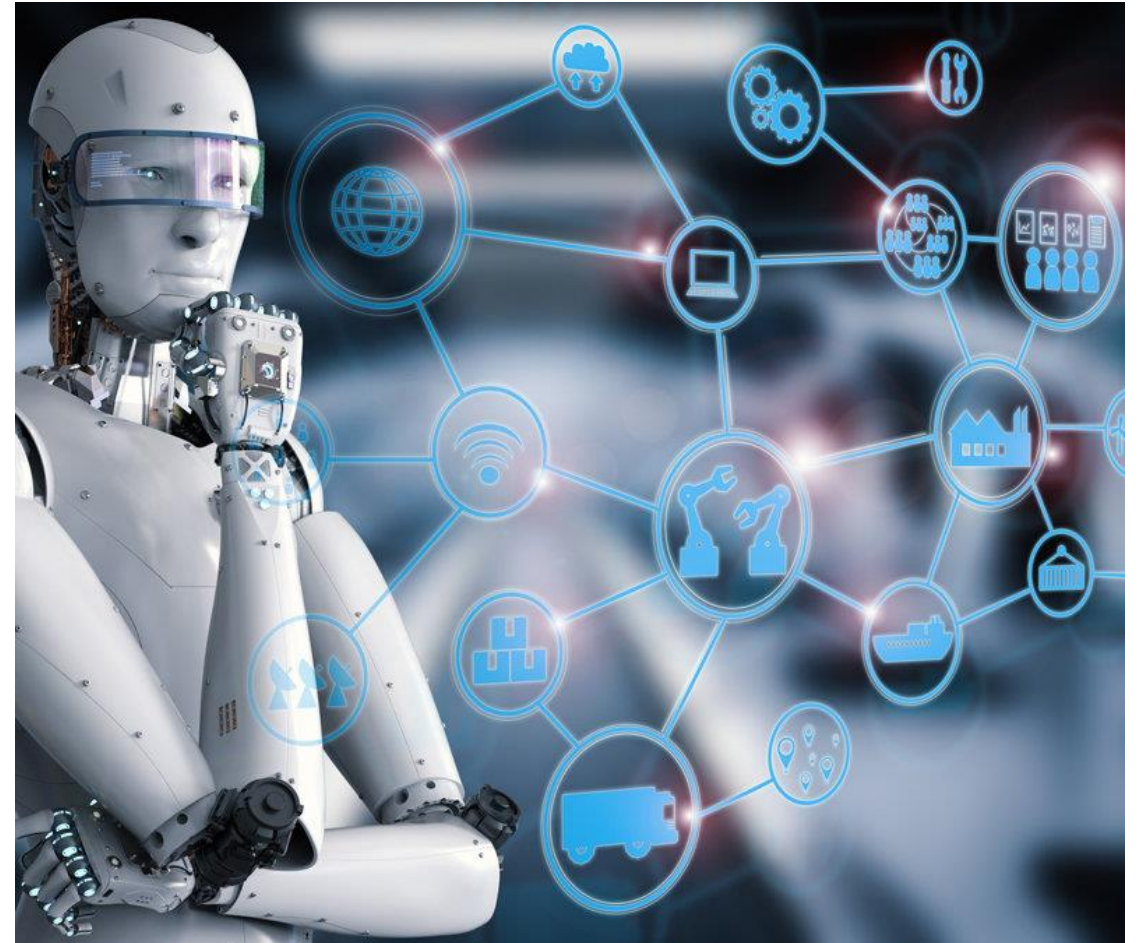


- Expanded sales and application teams
- SEMI manufacturing in Qingdao
- Innovation centre
- China focused products



Summary – Vacuum Technique

- Focus on market share gain
- Industrial vacuum is growing
- Excellence in brand portfolio management
- Clear divisional roadmaps to drive towards strategic convergence and sustainable profitable growth
- An integrated sustainable strategy



***Committed to
sustainable productivity.***



Atlas Copco



Cautionary Statement

“Some statements herein are forward-looking and the actual outcome could be materially different. In addition to the factors explicitly commented upon, the actual outcome could be materially and adversely affected by other factors such as the effect of economic conditions, exchange-rate and interest-rate movements, political risks, the impact of competing products and their pricing, product development, commercialization and technological difficulties, supply disturbances, and major customer credit losses.”