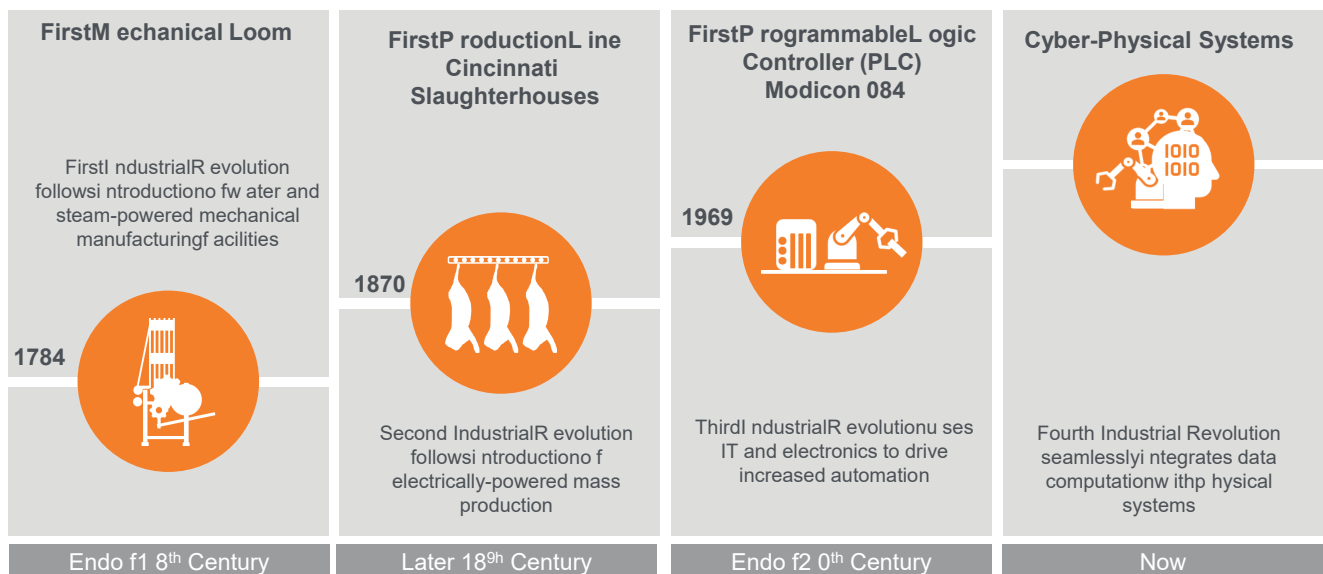


IS THE 4TH
REVOLUTION
ACTUALLY
HAPPENING FOR
AUTOMOTIVE
COMPONENT
MANUFACTURERS?

The way in which the world manufactures products has continuously evolved since the days of the first industrial revolution, which started in the mid-18th century with the introduction of mechanization. In the latter part of the 19th century, the second industrial, or 'technological', revolution saw the emergence of standardisation, mass production and industrialization. The third revolution in the latter half of the twentieth century saw the widespread adoption of

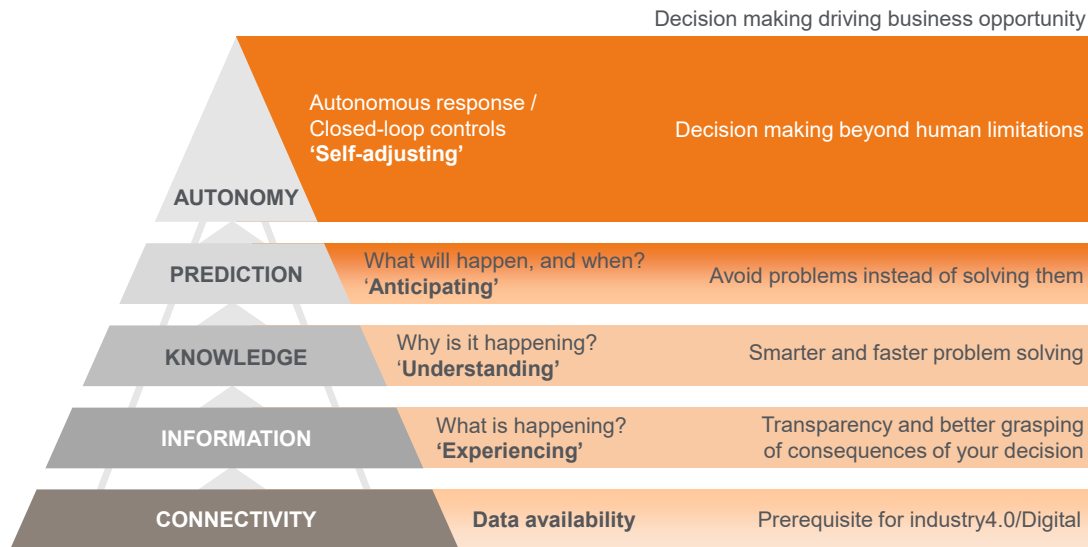
computerization and industrial automation, and was closely followed by the application of continuous improvement techniques such as Lean and 6 Sigma. Each step-change brought with it significant improvements in process efficiency, continuously reducing waste across the end to end Automotive value chain, allowing manufacturers to reduce cost, increase quality and offer faster lead times and more choice to their customers.



The 4th industrial revolution is now upon us, and Industry4.0, Smart Factory, and Digital are all terms used to define the emerging industrial landscape. Overlaying lean operations with connected technologies such as the Industrial Internet of Things (IIoT), Big Data, Machine Learning, AI, AR, and Digital Twin integrated into cyber-physical ecosystems stretching across the value chain can enable new and more efficient processes, services and business models. It combines traditional manufacturing processes with

technologies such as IoT and AI to improve automation, communication and use of real time data. As such, it boosts traditional lean tools through the continuous use of data and connectivity, and is the next level of maturity in operational excellence, promising better synergies between machines and their human counterparts.





The 4th revolution brings with it many opportunities that can have significant positive impact across the Automotive value chain;



Increased Efficiency: Automation and data exchange in and across manufacturing processes leads to improved efficiency. Smart machines and systems can work seamlessly together, reducing the need for human intervention, minimizing errors, and optimizing production processes.



Value Chain Optimization: The integration of digital technologies helps in optimizing supply chain processes. Real-time data transparency, sharing and analysis enable better visibility across the value chain, leading to improved coordination and reduced lead times.



Cost Reduction: By streamlining operations, minimizing waste, and optimizing asset and resource utilization, digital technologies can drive significant cost savings.



Data-driven Decision Making: Big data generated by IIoT devices and sensors can help businesses make faster and more informed decisions. Analyzing data in real-time helps in identifying trends, predicting maintenance needs, and optimizing various aspects of operations.



Enhanced Productivity: The integration of advanced technologies like IIoT, AI, and robotics can lead to increased productivity. Smart factories can operate 24/7, and real-time data analytics can enhance decision making and process output.



Workforce Empowerment: While automation may reduce the need for certain manual tasks, it can also empower the workforce by allowing them to focus on more complex and value-added activities. Up-skilling programs can be implemented to ensure that employees can be adapt to the changing technological landscape.



Improved Quality: Advanced monitoring and control systems ensure better product quality by identifying and addressing issues in real-time, which can lead to a reduction in defects and improved process and product consistency.



Environmental Sustainability: Digital technologies can contribute to sustainability goals by optimizing resource usage, reducing waste, and minimizing the environmental impact of manufacturing processes.



Flexibility and Configuration: Digital allows for more flexible and agile manufacturing processes. Businesses can respond quickly to changing market demands and more easily configure products according to individual customer requirements.



Innovation and Product Development: Digital facilitates innovation by providing a platform for the development and integration of new technologies. This can lead to the creation of new products and services, driving business growth.

Successful implementation requires careful planning, investment, and a commitment to adapting to the evolving technological landscape. More importantly, it requires Automotive manufacturers to clearly understand what they are seeking to achieve and to have a well-defined and articulated future state vision, with fully aligned objectives at the corporate, functional, and individual level.

Hundreds of millions of pounds are therefore being invested by suppliers across the automotive supply chain on the premise of a step-change improvement in operational performance and game-changing financial returns. However the digital journey is not of course a simple one, and many automotive businesses are failing far short of expected returns as they experience one or more of the many digital pitfalls;



Business driver: Businesses are often being led by technology first and are typically approaching digital deployment from a bottom-up basis. Digital is only ever an enabler to achieving business objectives.



Resistance to Change: Employees often resist the adoption of new technologies due to a fear of job displacement or a lack of understanding about how these technologies will impact and benefit their activities.



Strategy and plan: Businesses have no clear roadmap, with no end-game or destination, an unsure starting position and often lack understanding of the waypoints that need to be navigated to ensure a successful journey.



Skills Gap: Implementation of digital technologies requires a skilled workforce capable of operating and maintaining these systems. A lack of skilled personnel can hinder the successful adoption of digital and often necessitates significant investments in training and education.



Deployment: Businesses have begun their journey in the wrong place – they start by connecting some (any?) assets, then collect, structure and store data, but they have often connected the wrong assets, or are collecting the wrong data, and therefore are frequently unable to take any insight from the data and subsequently drive sustainable positive business change.



Reliability and Downtime Concerns: Dependence on technology and connectivity makes systems susceptible to technical glitches, malfunctions, or downtime. Ensuring the reliability of digital systems is crucial to maintaining smooth operations.



High Initial Costs: The adoption of digital technologies often involves significant upfront costs for acquiring and implementing new hardware, software, and training programs. A lack of certainty of ROI means initiatives can fail before they have even started.



Integration Challenges: Integrating existing systems with new digital technologies can be a complex and costly exercise. Existing legacy systems may not be compatible with emerging technologies, leading to integration challenges and (fear of) potential disruptions in operations.



Over Relying on Technology: Whilst technology is a key enabler, overreliance on it without considering the human element and the importance of human decision-making can bring journeys to a swift and painful conclusion. Balancing automation with human skills and experience is crucial for successful digital implementation



Data Security Concerns: Increased connectivity, network access nodes, and data sharing creates new challenges related to cybersecurity. Protecting sensitive data from cyber threats becomes crucial, and businesses need to invest in robust security measures to prevent data compromises.

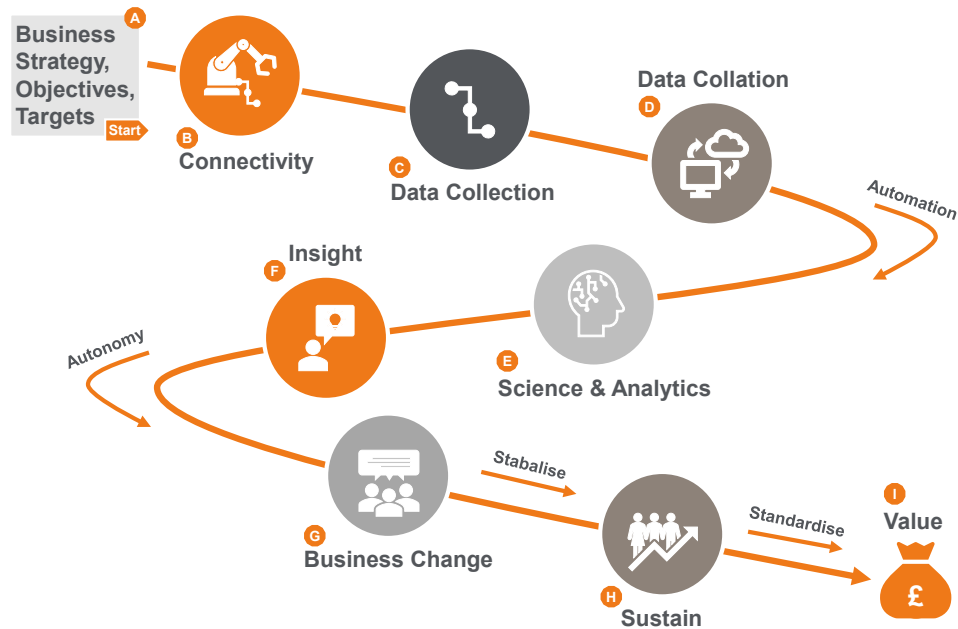
But is the 4th ‘revolution’ actually happening? Whilst Automotive businesses that navigate these challenges effectively can harness the full potential of digital and gain a competitive edge in the market, many are unable due to the pitfalls outlined above, and they are burning significant time, effort and money at a time when margins are already facing unprecedented pressure, and are not seeing any resultant impact on EBITDA performance.

The Digital Journey

We help clients successfully navigate their digital operations journeys at a strategic or tactical level

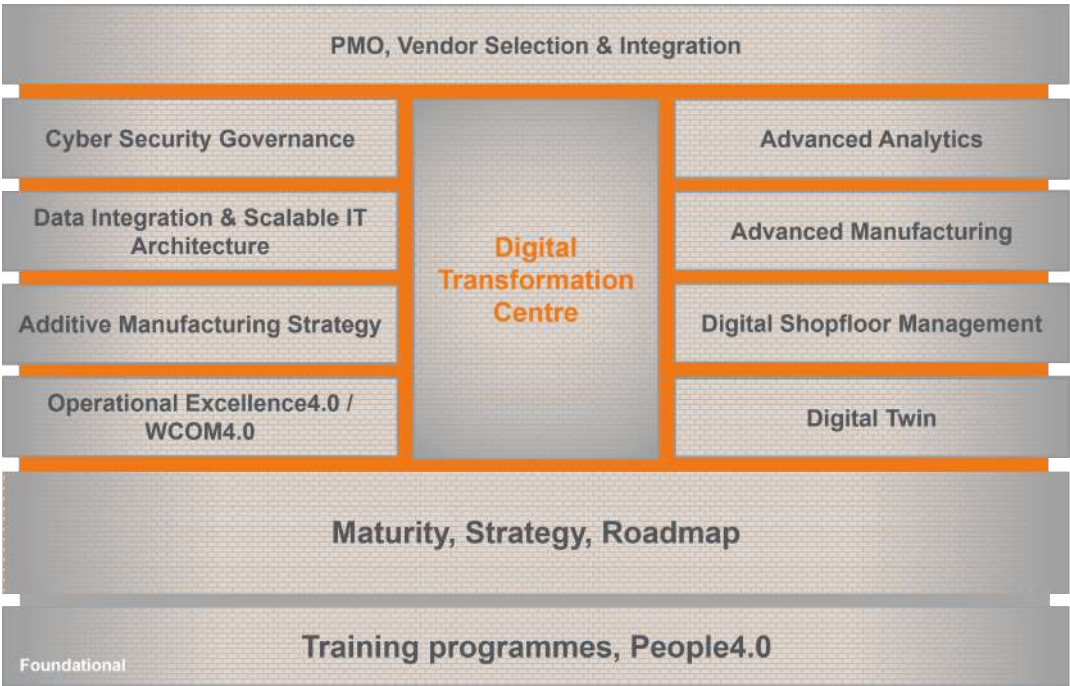
Using emerging digital technologies as an overlay to existing approaches to operational performance improvement, we help them leverage data to make better decisions faster;

- A What data do we need?
- B Where do we get it?
- C How do we get it?
- D Where do we put it?
- E What does it say?
- F What does that mean?
- G How do we use that?
- H How do we make that stick?
- I How do we secure true value?



EFESO can help Automotive clients successfully navigate the complex digital journey and ensure they are able to secure tangible and positive EBITDA impact. We deploy robust and proven digital solutions addressing challenges across the industrial value chains, and work with clients to align business strategy,

objectives and desired outcomes with digital deployment, ensuring they have the necessary tools, skills, and capabilities in place to collect, collate, and analyze data, and to create insights that drive sustainable business change, all with a clear and direct link to EBITDA performance.





About the author

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Andy is a Principal Consultant at EFESO Consulting where he guides clients through their complex operational transformation journeys.

He has more than 30 years' experience of driving step changes in operational performance in manufacturing, sourcing, procurement, and supplier performance management across a wide range of sectors, with an increasing focus on Industry4.0 and digital/smart operations.



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