We have reached critical inflection points in many colliding physical, biological and digital technologies

<table>
<thead>
<tr>
<th>Industry 1.0</th>
<th>Industry 2.0</th>
<th>Industry 3.0</th>
<th>Industry 4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanization</td>
<td>Mass production</td>
<td>Computing</td>
<td>Connected</td>
</tr>
<tr>
<td>Late 18th century</td>
<td>Beginning of 20th century</td>
<td>1970s-2000s</td>
<td>2010 onward</td>
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</tbody>
</table>

As technology innovation changes, manufacturers find themselves in new markets with new customer expectations, changing and connected product capabilities and new competitors bringing disruptive business models.

Drivers of outcomes | Challenges
---|---
Customer centricity | The product and engineering orientation of many industrial products (IP) companies lacks the view of customer needs and expectations. How does leadership shift to a customer centric focus including developing new engagement models with customers, manage dynamic expectations, creating new product/service offerings leveraging data and new technologies, and creating different service models that drive new revenue opportunities and a measure of client value over time?
Product innovation | Evaluating current product portfolio and service concepts for revenue growth via features/capabilities, sales analytics, pricing analytics and outcome-based contracts. Products are becoming a delivery mechanism for new revenue streams.
Emerging markets expansion | Evaluating market opportunity and facility map to determine optimal growth and cost locations. How does the organization build the right local capability in target markets from campaigns and relationships to R&D, manufacturing and distribution centers?
Capital management | Manage the capital cycle to gain competitive advantage. Drive strategic boardroom and management decisions around preserving, optimizing, raising and investing capital (e.g., when to embark on operational restructuring, divestment of assets, acquisitions).
Integrated supply chain | Reducing costs continues to be an opportunity for IP companies to improve margin. Identifying, prioritizing and driving rapid and sustainable cost improvements across all areas of the value chain enabling demand sensing, new supplier relationships, asset intelligence, labor effectiveness and network optimization. Connectivity of physical and smart components creates real-time opportunities to drive lean processes to a new level of performance.
Workforce effectiveness | Industry 4.0 will require a new level of engagement and skills for the IP workforce. There is an opportunity to close the current skill gap by attracting and retaining new talent with an enhanced workforce model. Talent in software, data, analytics, systems engineering and other integration capabilities will be required for market success.
Operational intelligence (emerging technologies) | Information technology/operating technology integration “changes everything” leveraging data and analytics, industrial internet of things (IIoT), simulation, robotic process automation, augmented reality, additive manufacturing and other disruptive technologies to increase productivity and facilitate growth.
Operational risk | Mitigating risk in areas that are unique to manufacturing including vendor management, supplier reliability, capital program management and contract compliance are even more important in the connected environment of Industry 4.0.
Cybersecurity | Security of product, financial, operational and customer information against internal and external threats.
The traditional business model is under increasing challenge with many disruptive forces at work.

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Growth is challenging</th>
<th>Consumer behavior and expectation is changing</th>
<th>Costs are hard to control</th>
<th>Digital threats are expanding exponentially</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited volume growth in mature markets</td>
<td>Challenging opportunities in emerging markets</td>
<td>Digital is shifting control to the consumer</td>
<td>Increasingly complex routes to market</td>
<td>External cost pressures growing</td>
</tr>
</tbody>
</table>

Approach:
- **Parts and service** growth strategy
- **Enterprise** transformation
- **Commercial** transformation
- **Experience** transformation
- **Digital** transformation
- **Parts and service** transformation

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Parts and service transformation</th>
<th>EY</th>
<th>Operational excellence</th>
<th>Digital and innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenged</td>
<td>We help companies design, deliver and deploy digital technologies that enable the front office and growth.</td>
<td>We help companies design the ideal path to growth, including organic and inorganic options.</td>
<td>Field service software (FSS) can be used to collect and analyze data and schedule field service visits ahead of time to anticipate problems and repair issues before they seriously hinder a machine’s ability to perform its functions.</td>
<td>IoT, machine learning and actionable analytics cloud solution to provide near real-time actionable and predictive analytics to enable users to have high value manufacturing information in the context of the energy and water consumption.</td>
</tr>
</tbody>
</table>

Global manufacturer of electronic and electrical equipment:
- **Situation:** Company struggled to realize growth due to major capital disruption in traditional core markets. Challenges included finding new revenue streams to offset significant revenue, O/I and related share-price performance.
- **Approach:** EY assisted company with a growth strategy based on megatrends in software services within the Internet of Things (IoT) agenda. Program included design and development of indirect channel and alliance ecosystem and enterprise operating model transformation.
- **Value delivered:** Company expects to see financial benefits in the billions of new revenue streams and as a result of indirect commercial enablement over the next few years.

Major logistics service provider (LSP):
- **Situation:** Legacy mainframe could not efficiently accommodate challenging transportation and fleet management requirements. Roll-out included complicated route structures and strict service level agreement (SLA)/quality constraints.
- **Approach:** EY provided business requirements, data collection, functional and technical design, configuration, process flows, and quality and unit testing.
- **Value delivered:** Guided major LSP in implementing a digital transformation including IoT enablement, big data, cloud computing, and fleet management, warehouse to assist in onboarding customers rapidly and more efficiently.

US-based pharmaceutical company:
- **Situation:** As a result of increasing regulatory oversight, the client recognized a need to strengthen its processes for managing relationships with third parties and selected a Supplier Information and Performance Management (SIPM) tool.
- **Approach:** EY was engaged to design/implementation, conducted data assessments, developed requirements, escalation protocols and processes for evaluating and monitoring risk associated with new/existing suppliers.
- **Benefit value:** Broadened scope of traditional supplier risk management and rationalized existing supplier base and decreased volume of new suppliers being added each month.

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