HFS **TOP 10**

HFS Top 10: Industry 4.0 Service Providers, 2022

An assessment of Industry 4.0 providers services by execution, innovation, OneOffice™ alignment, and client feedback

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Excerpt for Accenture

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With the boundaries between digital and physical engineering blurring, Industry 4.0 is a compelling example for the emerging OneEcosystem™ mindset. Service providers need to integrate an expansive set of technology partners while designing solutions meant to be used by industry ecosystems. Thus, data transformation capabilities and a product-oriented mindset are critical competencies of the leading service providers.

Tom Reuner, Research Leader

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COVID-19 was a wake-up call for firms that had not implemented Industry 4.0. It emerged as a key driver helping companies survive the pandemic. Large and small companies must start with small-scale implementation, later scaling up to be relevant amid changing dynamics of Industry 4.0 business.

Mayank Madhur, Associate Practice Leader

Excerpt for Accenture

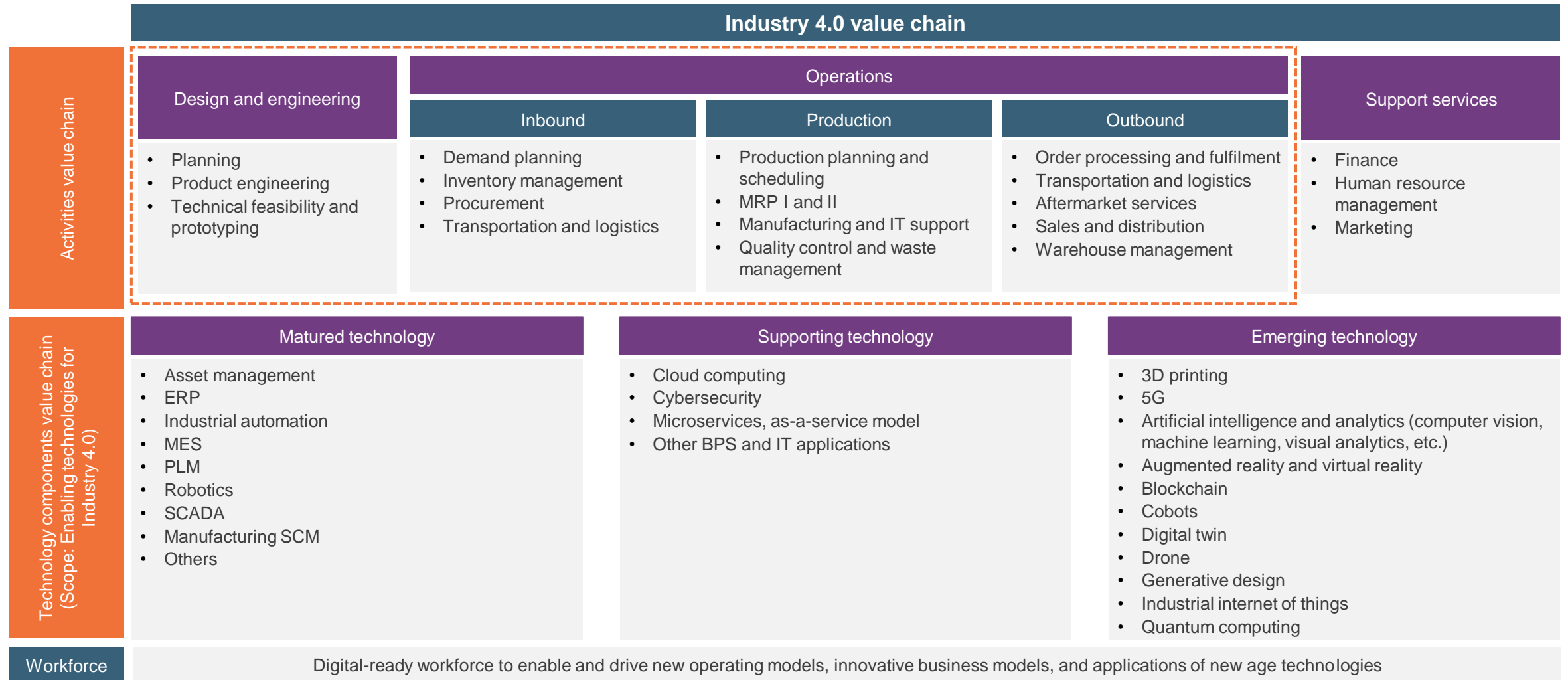# Contents

HFS **TOP 10**

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Introduction and the HFS value chain

Introduction

- "Industry 4.0" refers to the emerging impact of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the internet of things, cloud computing, and artificial intelligence. Industry 4.0 is commonly referred to as the fourth industrial revolution. Industry 4.0, when adopted effectively, increases manufacturing productivity, reduces costs, accelerates the go-to-market timeline, and facilitates mass personalization.

- The *HFS Top 10: Industry 4.0 Service Providers, 2022* report examines service providers' role in the evolving Industry 4.0 landscape. We assessed and rated the Industry 4.0 service capabilities of 14 service providers across a defined series of innovation, execution, voice of the customer, and OneOffice criteria.

- This report also includes detailed profiles of each service provider, outlining their overall and sub-category rankings, provider facts, and detailed strengths and development opportunities.

- The report focuses on Industry 4.0 specific capabilities across industries, as defined in our Industry 4.0 value chain. It does not include horizontal IT and BPS services, PLM services, and enterprise services such as ERP implementation that may be delivered to Industry 4.0 clients.

The Industry 4.0 value chain

Industry 4.0 value chain				

	Design and engineering	**Operations**			**Support services**
		Inbound	Production	Outbound	
Activities value chain	• Planning • Product engineering • Technical feasibility and prototyping	• Demand planning • Inventory management • Procurement • Transportation and logistics	• Production planning and scheduling • MRP I and II • Manufacturing and IT support • Quality control and waste management	• Order processing and fulfilment • Transportation and logistics • Aftermarket services • Sales and distribution • Warehouse management	• Finance • Human resource management • Marketing

	Matured technology	**Supporting technology**	**Emerging technology**
Technology components value chain (Scope: Enabling technologies for Industry 4.0)	• Asset management • ERP • Industrial automation • MES • PLM • Robotics • SCADA • Manufacturing SCM • Others	• Cloud computing • Cybersecurity • Microservices, as-a-service model • Other BPS and IT applications	• 3D printing • 5G • Artificial intelligence and analytics (computer vision, machine learning, visual analytics, etc.) • Augmented reality and virtual reality • Blockchain • Cobots • Digital twin • Drone • Generative design • Industrial internet of things • Quantum computing

Workforce	Digital-ready workforce to enable and drive new operating models, innovative business models, and applications of new age technologies

In scope of this Top 10 report

The Industry 4.0 value chain defined (1 of 2)

The Industry 4.0 value chain defines the boundary of the people, processes, and technology to form the backbone of successful Industry 4.0 implementations for manufacturers. The HFS Industry 4.0 value chain describes interplays between the processes and functions in which manufacturing organizations engage. The Industry 4.0 value chain provides a comprehensive overview of services for both types of manufacturing activities across differences in business processes and landscapes of discrete and flow manufacturing.

HFS has identified the necessary manufacturing business processes and major technologies shaping the Industry 4.0 landscape. As per our industry 4.0 definition, manufacturing leaders must focus on end-to-end processes starting from research and development (R&D) to product design, operations, and support services:

- **Research and development** — New product development research, including market needs, competitive landscape, and technology feasibility.

- **Design** — Product design focused on physical product development; testing, cost, and quality measures; and regulatory compliance.

- **Operations** — Focused on inbound and outbound logistics management and production processes. Operations functions include production planning, inventory management, transportation management, order processing, supply chain management, and aftermarket services.

- **Support services** — Services designed to manage manufacturing organizations such as finance, resource management, and marketing.

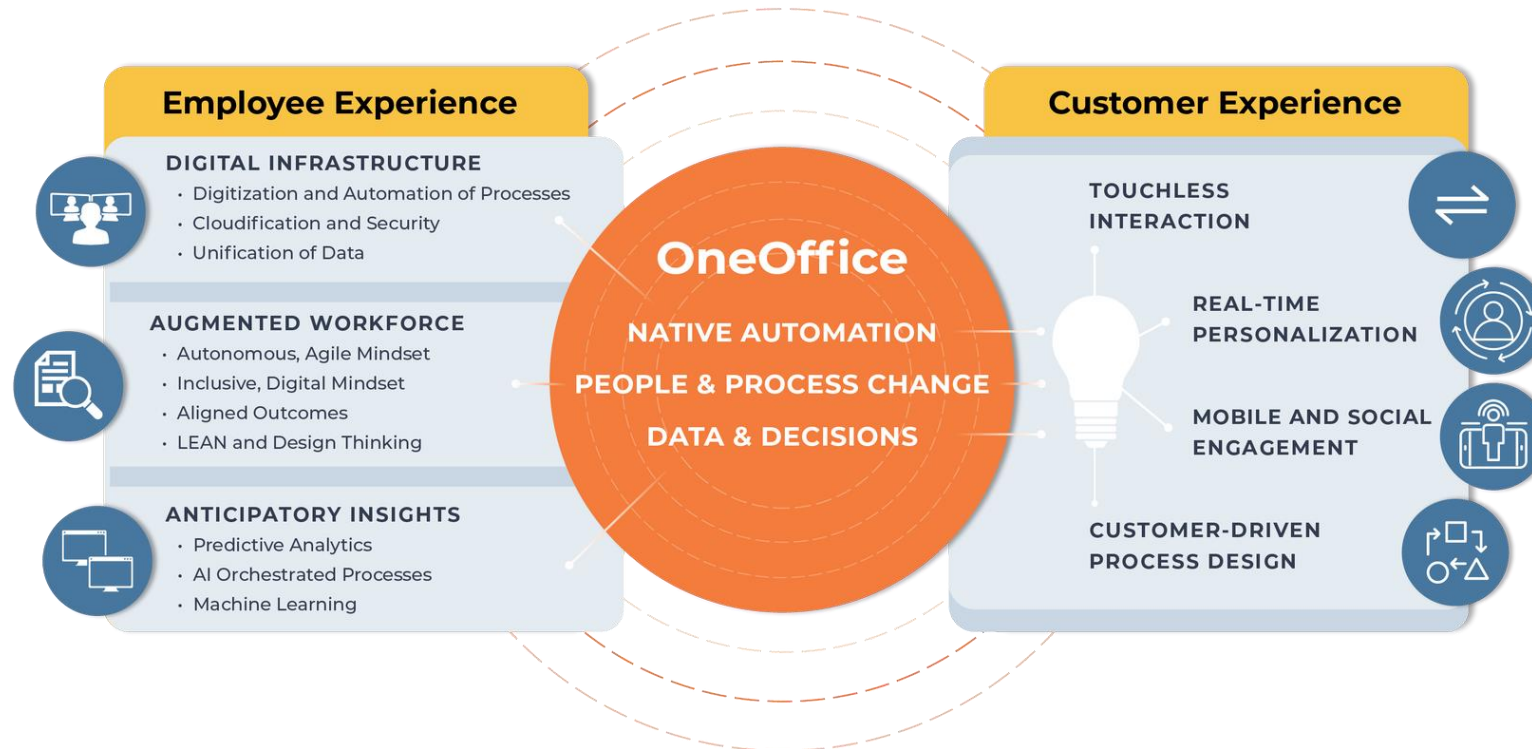# The Industry 4.0 value chain defined (1 of 2)

Industry 4.0 is not a ready-made software suite like ERP; it includes capabilities addressing a combination of complex manufacturing processes enabled by emerging technologies. We have identified smart manufacturing and other digital technologies that Industry 4.0 applications leverage. Some of these technologies are specific to Industry 4.0 applications, and others can be leveraged in this space.

- **Industry 4.0 components** — These technologies are limited to manufacturing applications such as 3D printing, robotics, manufacturing automation, and small-batch manufacturing.

- **Generic technology components** — This group includes emerging digital technologies such as IoT, digital twin, AR/VR, and others that Industry 4.0 applications can use without too much customization for manufacturing applications.

The necessity of a workforce with digital mindsets is crucial for the successful deployment of Industry 4.0 tenets. As the number of emerging technology components and their usage increases in manufacturing, the enterprise must focus on building a smart workforce. Given the newness of Industry 4.0, training and skill development for the existing workforce is a crucial aspect.

The HFS OneOffice™—digital transformation in action

The HFS OneOffice™ is our vision for actionable digital transformation. At its heart is the core concept that emerging technologies combined with people, process, and data innovation can break down the silos that limit our success, dissolving barriers between the front and back office to create the only office that matters—OneOffice. It represents a mindset shift to collaborative cross-functional enterprise operations powered by an integrated stack of emerging tech that complements your core, natively automates your processes, enables your employees and customers, and powers your decisions—breaking down your legacy silos in the process.

Employee Experience

DIGITAL INFRASTRUCTURE
- Digitization and Automation of Processes
- Cloudification and Security
- Unification of Data

AUGMENTED WORKFORCE
- Autonomous, Agile Mindset
- Inclusive, Digital Mindset
- Aligned Outcomes
- LEAN and Design Thinking

ANTICIPATORY INSIGHTS
- Predictive Analytics
- AI Orchestrated Processes
- Machine Learning

OneOffice

NATIVE AUTOMATION

PEOPLE & PROCESS CHANGE

DATA & DECISIONS

Customer Experience

TOUCHLESS INTERACTION

REAL-TIME PERSONALIZATION

MOBILE AND SOCIAL ENGAGEMENT

CUSTOMER-DRIVEN PROCESS DESIGN

The OneOffice Emerging Tech Platform—powering the journey to the OneOffice

Native automation
Design processes in the cloud; learn from human interaction to keep improving
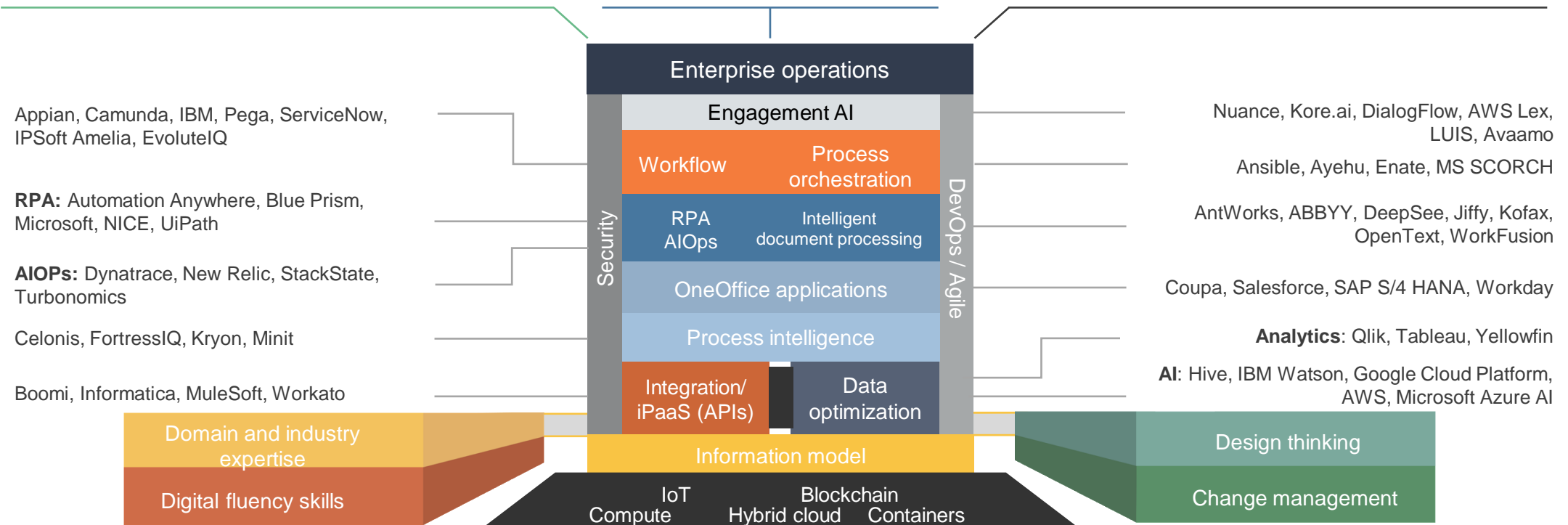
People and process change
Assist and complement human expertise; continually learn from interactions and feedback

Data and decisions
Identify new opportunities from data and interactions; provide anticipatory insights and forecasts

Appian, Camunda, IBM, Pega, ServiceNow, IPSoft Amelia, EvoluteIQ

RPA: Automation Anywhere, Blue Prism, Microsoft, NICE, UiPath

AIOPs: Dynatrace, New Relic, StackState, Turbonomics

Celonis, FortressIQ, Kryon, Minit

Boomi, Informatica, MuleSoft, Workato

Nuance, Kore.ai, DialogFlow, AWS Lex, LUIS, Avaamo

Ansible, Ayehu, Enate, MS SCORCH

AntWorks, ABBYY, DeepSee, Jiffy, Kofax, OpenText, WorkFusion

Coupa, Salesforce, SAP S/4 HANA, Workday

Analytics: Qlik, Tableau, Yellowfin

AI: Hive, IBM Watson, Google Cloud Platform, AWS, Microsoft Azure AI

Central platform diagram

- Enterprise operations
- Engagement AI
- Workflow | Process orchestration
- RPA AIOps | Intelligent document processing
- OneOffice applications
- Process intelligence
- Integration/iPaaS (APIs) | Data optimization
- Information model
- Security (left side)
- DevOps / Agile (right side)
- IoT, Compute, Blockchain, Hybrid cloud, Containers

Domain and industry expertise
Digital fluency skills

Design thinking
Change management

Excerpt for Accenture

2 | Research and methodology

Service providers covered in this report

*Data for IBM and Wipro is based on our own research
**Mindtree was evaluated before its merger with LTI

Excerpt for Accenture

Sources of data

This Top 10 research report relies on myriad data sources to support our methodology and help HFS obtain a well-rounded perspective on the service capabilities of the participating organizations covered in our study. Sources are as follows:

RFIs and briefings

- We ask each participating organization to complete a detailed **RFI**.
- HFS conducts **vendor briefings** with senior executives from each organization.
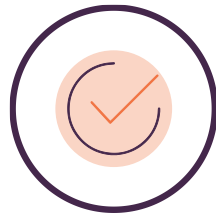
Reference checks

- HFS conducts reference checks with **active clients** of the study participants via survey and phone-based interviews.

HFS vendor ratings

- Each year, HFS fields multiple demand-side surveys in which we include detailed vendor rating questions. For this study, we leverage the HFS Pulse data featuring **400+ vendor ratings from Global 2000 enterprises**.
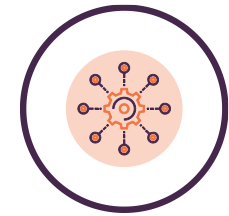
Other data sources

- **Public information** such as press releases and websites.
- **Additional sources** such as ongoing interactions, briefings, and virtual events, with in-scope vendors and their clients and partners.

Our assessment approach for this study

The study evaluates the capabilities of providers across the Industry 4.0 value chain based on execution, innovation, voice of the customer (VOC), and alignment with the HFS OneOffice model—our vision for digital transformation. Details include

25% **25%** **25%** **25%**

Execution

- **Geographic spread and scale—**Includes Industry 4.0 revenue and growth (YoY), global delivery footprint, and delivery spread
- **Relationship management—**Single face to the customer, formal relationship and governance structure, and client portfolio and centricity
- **Industry-specific offerings and expertise—**Including capabilities and revenue across the Industry 4.0 value chain, depth of industry knowledge, and level of sector experience
- **Depth across the value chain—**Includes solutions coverage and maturity, integration among digital, business consulting, and Industry 4.0 practices

Innovation

- **Vision and strategy—**Including an integrated vision and credibility of strategy, proof-points of a strong understanding of industry trends, refinement of capabilities to address industry-specific challenges
- **Investments and ecosystem—** Partnerships, thought leadership, acquisitions, R&D investments, and talent management
- **Platforms and proprietary tools—**In-house tools, patents, lab infrastructure, process integration, and R&D outcomes
- **Pricing—**Co-development with clients, creative commercial models
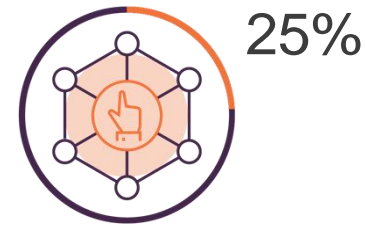
OneOffice alignment

- **OneOffice scope:** End-to-end offering that connects the front, middle, and back offices
- **OneOffice skills:** Cultivation of OneOffice skills such as digital fluency and problem solving, internally and with clients
- **OneOffice competencies:** Formalized approaches to data and change management
- **OneOffice technology platform:** Enabling capabilities that support "straight-to-digital," anything related to deployment of intelligent automation, IT-OT convergence, 5G, and other emerging technologies that weave into the OneOffice concept

Voice of the customer

- **References and interviews:** Sourced from study participants
- **Reference ability:** Provision of references and responsiveness
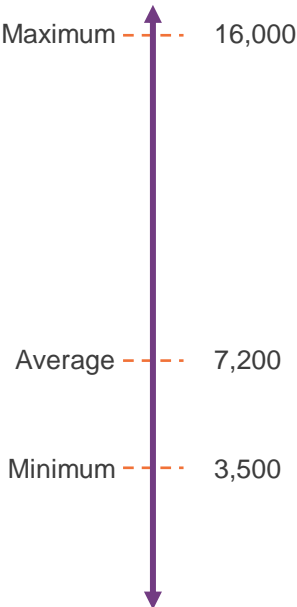- **HFS survey data:** Feedback from non-reference clients sourced from HFS' network

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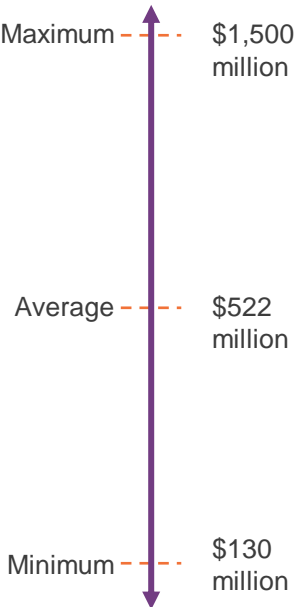
Market dynamics

Key takeaways

AI rise	**Applications of artificial intelligence (AI) are on the rise in use cases like condition monitoring and predictive maintenance.** Industry 4.0 uses real-time data analysis, AI, and machine learning in the manufacturing process, helping reduce errors. With the convergence of AI and emerging technologies, firms can solve complex problems and smooth decision making by reducing human bias.
Cobots	**The adoption of cobots has been increasing.** Service providers collaborate closely with industrial robotics manufacturers for new and emerging applications. They are engaging with robotics manufacturers for core robotics capability development related to object identification, motion, and gripping tasks. Cobots are helping firms upgrade their Industry 4.0 offering by helping across assembly lines to increase efficiency, improve productivity, and increase safety.
Digital twin, simulation, threads	**Firms have been investing heavily in digital twins, simulations, and threads**. Digital twins and simulations bridge the gap between physical and digital assets. Simulation can help us to execute different scenarios to test performance. By leveraging digital twins, companies can have improved operations and improve the time-to-market.
Cost-advantages to resilience	**Shifting focus from only cost advantages to resilience.** Industry 4.0 is accelerating distributed manufacturing offering localized production. Various technologies supporting Industry 4.0 support the concept of the geographical distribution of manufacturing systems adjacent to the markets to enable "production on demand."
Supply chain	**Manufacturing operations cannot operate in silos.** The supply chain is now an integral part of Industry 4.0 and has become a board room conversation topic. The manufacturing industry is moving toward more digitized processes by redefining traditional manufacturing processes. By digitalizing the supply chain, manufacturers can take care of operational effectiveness and realize significant cost reductions.
Overcoming PoC/pilot trap	**Manufacturing enterprises can overcome the PoC/pilot trap.** We have seen several examples of large smart-manufacturing implementations. Firms have been moving from the proof of concept (POC) stage to scaling the pilot innovation for growth and profit.
Sustainability	**Strategic focus on sustainability**: Industry 4.0 comprises smart technologies such as AI, computing, IoT, and data analytics. Industry 4.0 adoption has encouraged organizations' internal and external sustainability practices. Organizations have seen that technologies can simplify product tracking and improve product reuse, recycling, and waste production efficiencies.

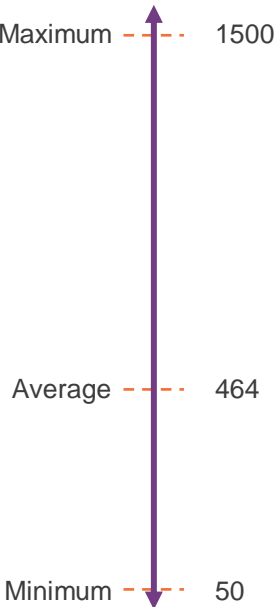# Industry 4.0 services | Industry 4.0 services engagement landscape
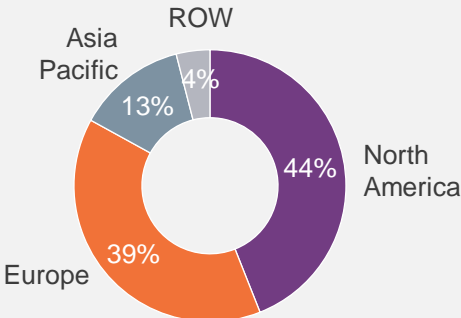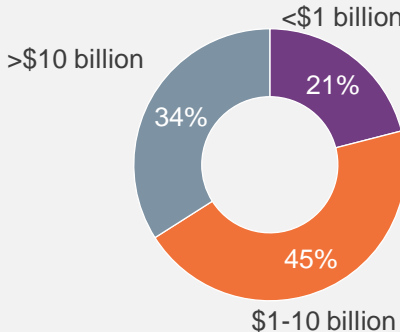
FTE landscape

- Maximum --- 16,000
- Average --- 7,200
- Minimum --- 3,500

Revenue landscape

- Maximum --- $1,500 million
- Average --- $522 million
- Minimum --- $130 million

Client count

- Maximum --- 1500
- Average --- 464
- Minimum --- 50

Clients by geography

- North America 44%
- Europe 39%
- Asia Pacific 13%
- ROW 4%

Client by revenue size

- <$1 billion 21%
- $1-10 billion 45%
- >$10 billion 34%

Pricing model breakdown
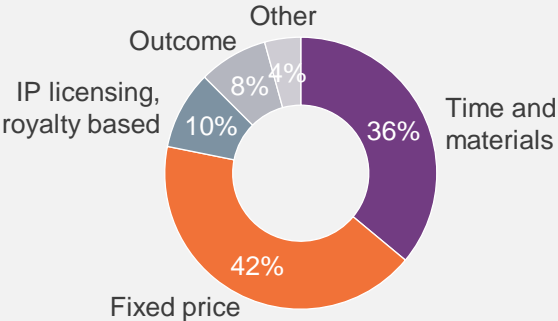
- Time and materials 36%
- Fixed price 42%
- IP licensing, royalty based 10%
- Outcome 8%
- Other 4%
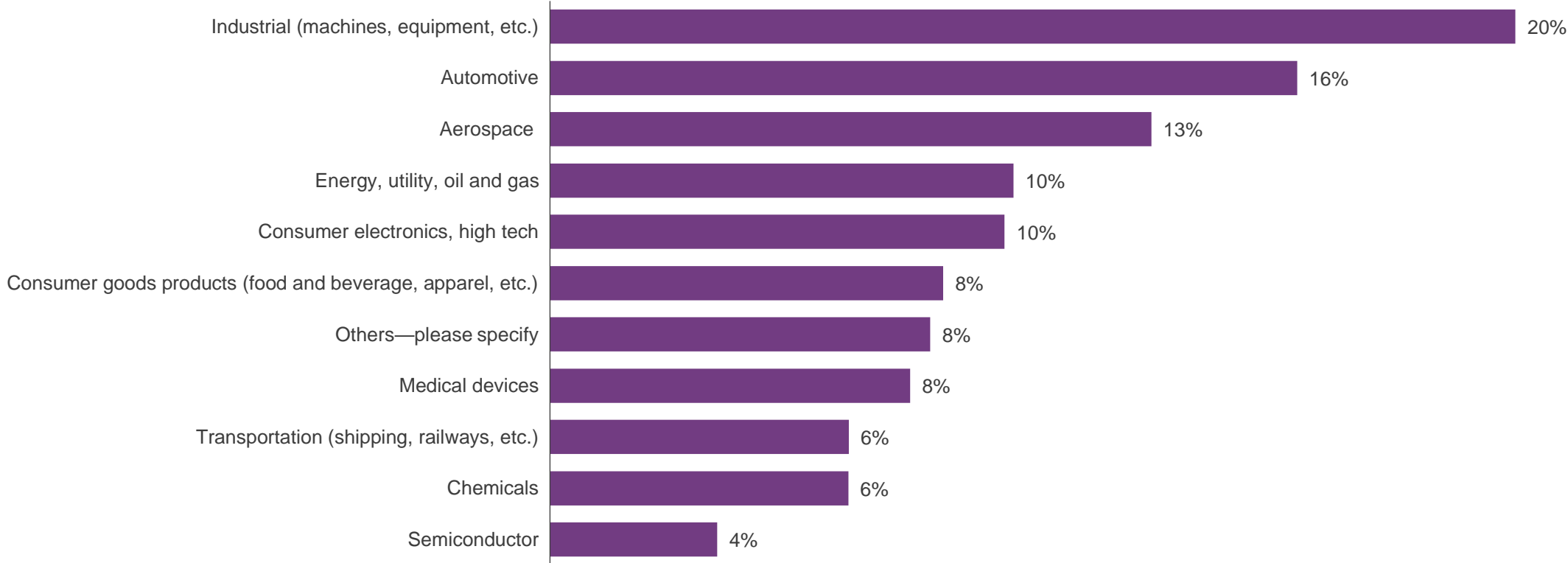
Sample: Based on the assessment of Industry 4.0 RFI input from 13 service providers
Source: HFS Research, 2022
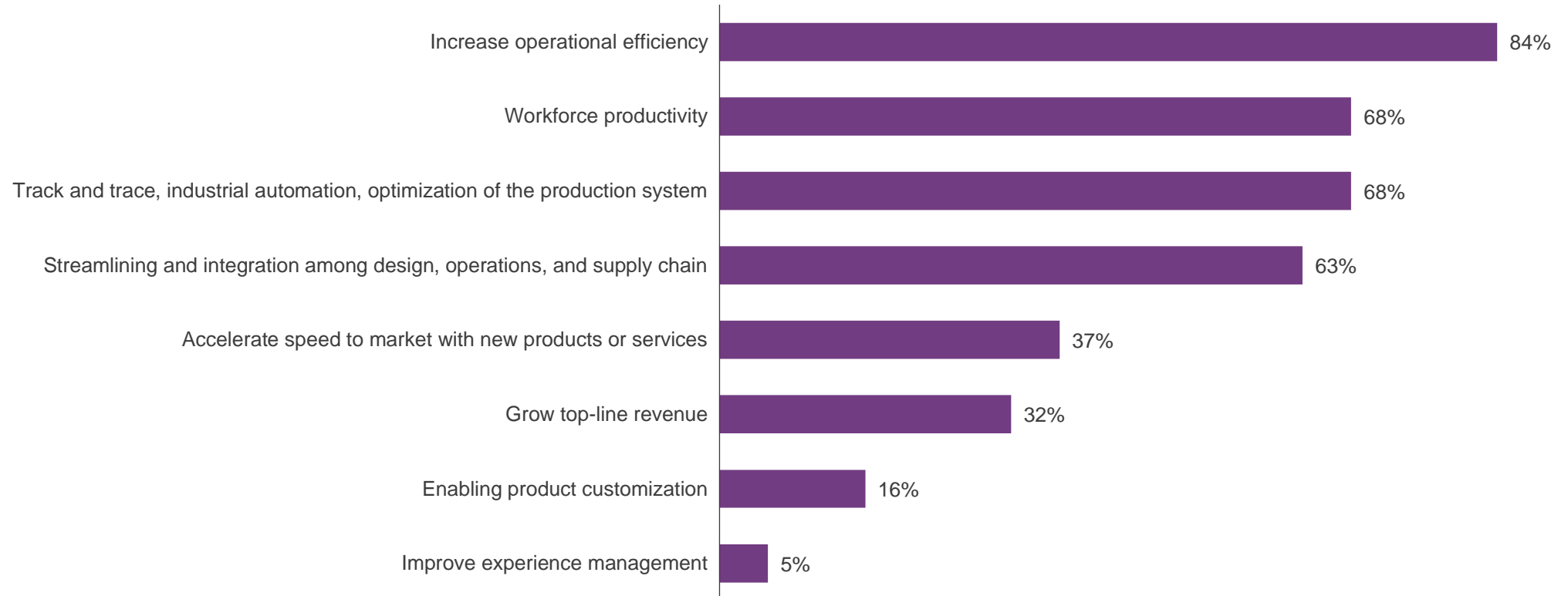
Industry 4.0 services engagement landscape

Please provide the percentage break-up of Industry 4.0 clients for the following industries

Industry	Percentage
Industrial (machines, equipment, etc.)	20%
Automotive	16%
Aerospace	13%
Energy, utility, oil and gas	10%
Consumer electronics, high tech	10%
Consumer goods products (food and beverage, apparel, etc.)	8%
Others—please specify	8%
Medical devices	8%
Transportation (shipping, railways, etc.)	6%
Chemicals	6%
Semiconductor	4%

Increasing the operational efficiency occupies the top spot in business problems that firms are trying to solve with Industry 4.0

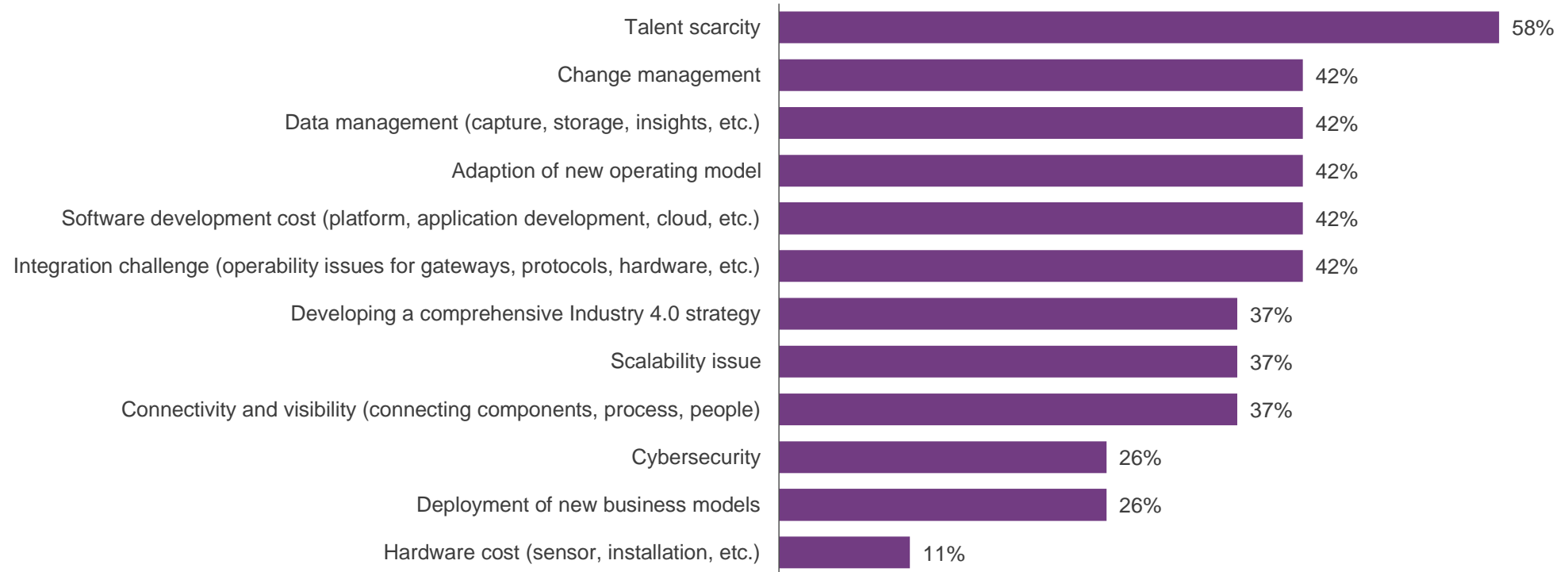**Describe briefly the business problems that you are trying to solve with Industry 4.0. Select all that apply**

Business problem	Percentage
Increase operational efficiency	84%
Workforce productivity	68%
Track and trace, industrial automation, optimization of the production system	68%
Streamlining and integration among design, operations, and supply chain	63%
Accelerate speed to market with new products or services	37%
Grow top-line revenue	32%
Enabling product customization	16%
Improve experience management	5%

Sample: Based on the Industry4.0 reference survey
Source: HFS Research, 2022

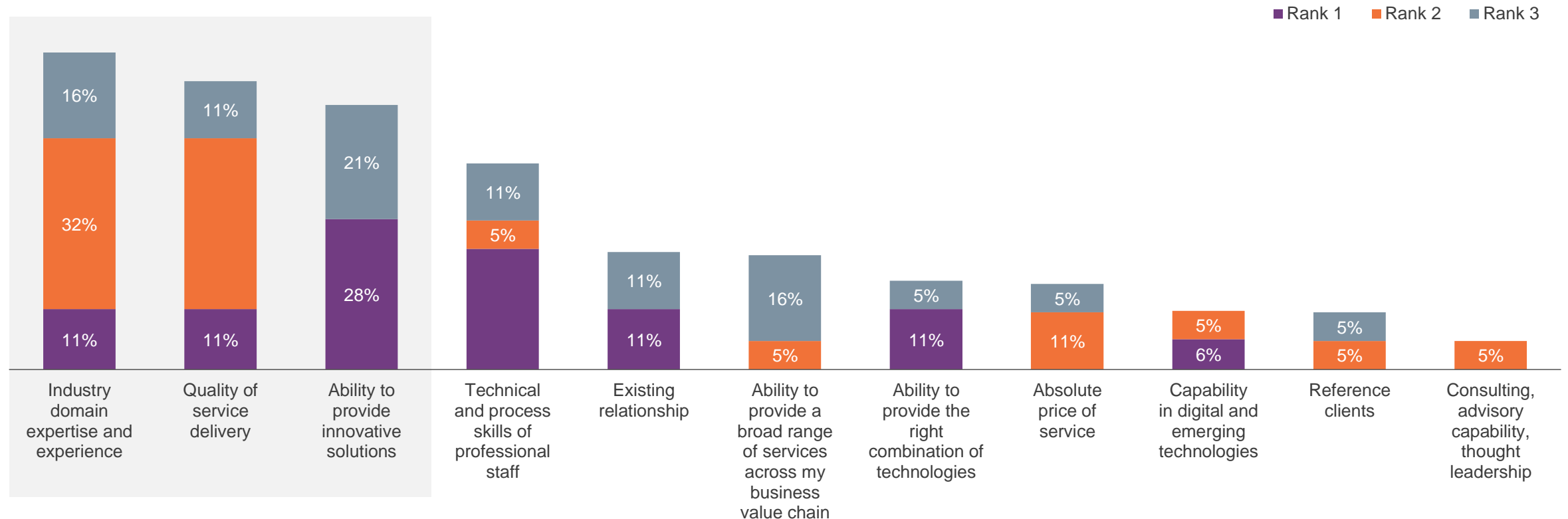# Talent scarcity occupies the top spot for Industry 4.0-specific challenges

What are the top five Industry 4.0-specific challenges that you are facing?

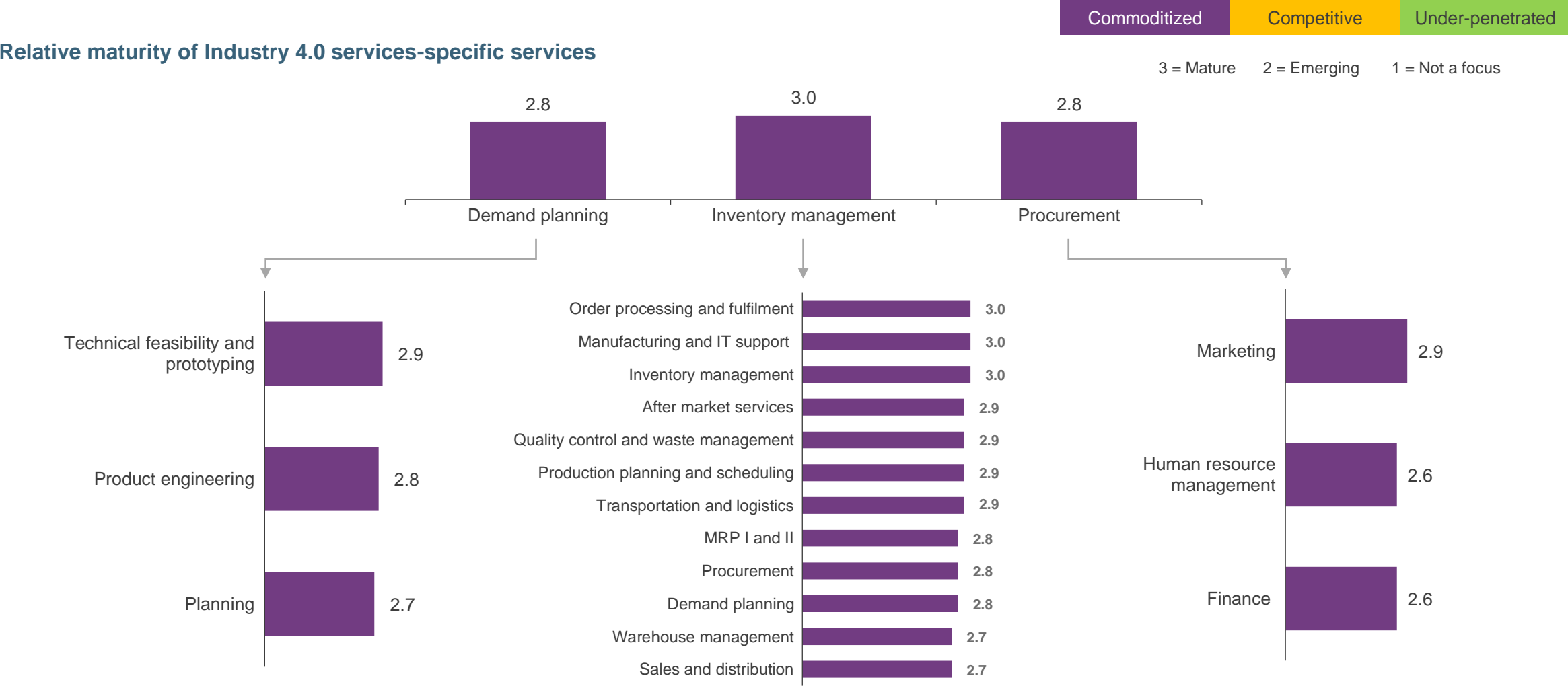| Challenge	Percentage
Talent scarcity	58%
Change management	42%
Data management (capture, storage, insights, etc.)	42%
Adaption of new operating model	42%
Software development cost (platform, application development, cloud, etc.)	42%
Integration challenge (operability issues for gateways, protocols, hardware, etc.)	42%
Developing a comprehensive Industry 4.0 strategy	37%
Scalability issue	37%
Connectivity and visibility (connecting components, process, people)	37%
Cybersecurity	26%
Deployment of new business models	26%
Hardware cost (sensor, installation, etc.)	11%

Industry domain expertise and experience, quality of service delivery, and ability to provide innovative solutions are top criteria for service provider selection

What are the top three selection criteria for choosing a service provider?

Legend: ■ Rank 1 ■ Rank 2 ■ Rank 3

Industry domain expertise and experience: 16% (Rank 3), 32% (Rank 2), 11% (Rank 1)
Quality of service delivery: 11% (Rank 3), 11% (Rank 1)
Ability to provide innovative solutions: 21% (Rank 3), 28% (Rank 1)
Technical and process skills of professional staff: 11% (Rank 3), 5% (Rank 2)
Existing relationship: 11% (Rank 3), 11% (Rank 1)
Ability to provide a broad range of services across my business value chain: 16% (Rank 3), 5% (Rank 2)
Ability to provide the right combination of technologies: 5% (Rank 3), 11% (Rank 1)
Absolute price of service: 5% (Rank 3), 11% (Rank 2)
Capability in digital and emerging technologies: 5% (Rank 2), 6% (Rank 1)
Reference clients: 5% (Rank 3), 5% (Rank 2)
Consulting, advisory capability, thought leadership: 5% (Rank 2)

Sample: Based on the Industry4.0 reference survey
Source: HFS Research, 2022

Excerpt for Accenture

Industry 4.0-related services are rated as mature by its service provider

Commoditized	Competitive	Under-penetrated

3 = Mature   2 = Emerging   1 = Not a focus

Relative maturity of Industry 4.0 services-specific services

Demand planning	2.8
Inventory management	3.0
Procurement	2.8

Demand planning
Technical feasibility and prototyping	2.9
Product engineering	2.8
Planning	2.7

Inventory management
Order processing and fulfilment	3.0
Manufacturing and IT support	3.0
Inventory management	3.0
After market services	2.9
Quality control and waste management	2.9
Production planning and scheduling	2.9
Transportation and logistics	2.9
MRP I and II	2.8
Procurement	2.8
Demand planning	2.8
Warehouse management	2.7
Sales and distribution	2.7

Procurement
Marketing	2.9
Human resource management	2.6
Finance	2.6

Sample: Based on the assessment of Industry 4.0 RFI input from 13 service providers
Source: HFS Research, 2022

Demand for Industry 4.0 services has been moderately increasing

Please specify how you have seen growth over the last 12 months in Industry 4.0?

-2 = Decreasing demand
-1 = No demand
0 = Similar demand

1 = Moderately increasing demand
2 = Significantly increasing demand

Demand planning — 1.2
Inventory management — 1.4
Procurement — 0.7

Demand planning
- Technical feasibility and prototyping — 1.1
- Product engineering — 1.3
- Planning — 1.0

Inventory management
- Transportation and logistics — 1.8
- Manufacturing and IT support — 1.7
- Quality control and waste management — 1.6
- Sales and distribution — 1.4
- Warehouse management — 1.3
- Aftermarket services — 1.3
- Production planning and scheduling — 1.3
- Procurement — 1.3
- Order processing and fulfilment — 1.2
- Inventory management — 1.2
- Demand planning — 1.2
- MRP – I and II — 0.8

Procurement
- Marketing — 0.8
- Human resource management — 0.8
- Finance — 0.5

Sample: Based on the assessment of Industry 4.0 RFI input from 13 service providers
Source: HFS Research, 2022

Excerpt for Accenture

4

Top 10 results:
Industry 4.0 service providers

Industry 4.0 service providers | A summary of the providers assessed in this report

Providers (alphabetical order)	HFS point of view
Accenture	Scaled provider with consulting and innovation focus
Atos	Building capabilities through dedicated partnerships and smart acquisitions
Capgemini	Europe-focused provider with a strong ecosystem, bolstering capabilities through the Altran acquisition
Cognizant	Expanding portfolio through targeted acquisitions and digital capabilities
EY	Consulting leader with an innovation mindset and strong organizational alignment
HCL	Engineering-led approach to deliver end-to-end value to clients
IBM	Technology leader co-innovating with its partners
Infosys	Delivering business outcomes by blending industry and domain expertise
KPMG	Transformation partner with OneOffice alignment
LTTS	Engineering powerhouse with compelling vision and exhaustive solutions portfolio
Mindtree	Leveraging L&T NxT acquisition to fulfill smart manufacturing growth ambition
TCS	Execution powerhouse with verticalized solutions and innovative pricing
Tech M	Customer-centric provider with strong automotive footprint
Wipro	Global provider with integrated service delivery and consulting-led approach

HFS Top 10 Industry 4.0 services: 2022 notable performances

HFS Winners Circle				
Top five providers overall across execution, innovation, OneOffice alignment, and voice of the customer criteria				
#1	#2	#3	#4	#5
accenture	Capgemini	KPMG	IBM	tcs TATA CONSULTANCY SERVICES

Execution powerhouses			Innovation champions			OneOffice alignment			Outstanding voice of the customer		
Top three providers on execution criteria			**Top three providers on innovation criteria**			**Top three providers aligned to OneOffice**			**Top three providers on voice of the customer criteria**		
#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3
accenture	KPMG	Capgemini	accenture	Capgemini	HCL	accenture	Capgemini	KPMG	KPMG	Capgemini	accenture

Other notable performances
• EY ranked #3 in relationship management
• LTTS ranked #1 in pricing
• Cognizant ranked #5 in investments and ecosystem

HFS 2022 Top 10 Industry 4.0 providers ranking

Rank	Overall HFS Top 10 position	Execution					Innovation					OneOffice alignment	Voice of the customer
		Geographic spread and scale	Relationship management	Industry-specific offerings and expertise	Depth of value chain	Overall execution	Vision and strategy	Platforms and proprietary tools	Pricing	Investments and ecosystem	Overall innovation		
#1	accenture	accenture	KPMG	accenture	accenture	accenture	accenture	IBM	L&T Technology Services	accenture	accenture	accenture	KPMG
#2	Capgemini	IBM	accenture	TCS	KPMG	KPMG	Capgemini	Capgemini	Infosys	Atos	Capgemini	Capgemini	accenture
#3	KPMG	Capgemini	EY	HCL	HCL	Capgemini	HCL	KPMG	TCS	IBM	HCL	KPMG	Capgemini
#4	IBM	KPMG	Capgemini	Capgemini	Infosys	IBM	TCS	L&T Technology Services	HCL	HCL	IBM	Infosys	TCS
#5	TCS	TCS	Infosys	L&T Technology Services	L&T Technology Services	TCS	L&T Technology Services	Infosys	KPMG	cognizant	L&T Technology Services	IBM	Infosys
#6	HCL	EY	IBM	KPMG	TCS	EY	IBM	accenture	Capgemini	Infosys	Infosys	HCL	HCL
#7	Infosys	wipro	HCL	IBM	IBM	HCL	cognizant	HCL	IBM	EY	TCS	TCS	Tech Mahindra
#8	L&T Technology Services	cognizant	L&T Technology Services	Infosys	Capgemini	Infosys	KPMG	Tech Mahindra	accenture	Capgemini	KPMG	L&T Technology Services	L&T Technology Services
#9	Atos	HCL	TCS	Atos	Tech Mahindra	L&T Technology Services	Atos	wipro	Mindtree A Larsen & Toubro Group Company	TCS	Atos	cognizant	cognizant
#10	EY	Infosys	Atos	wipro	Mindtree A Larsen & Toubro Group Company	wipro	Infosys	EY	wipro	L&T Technology Services	wipro	Atos	Mindtree A Larsen & Toubro Group Company

5

Accenture profile:
Industry 4.0 service providers

How to read our service provider summary statements

Dimension	Rank
HFS Top 10 position	
Ability to execute	
Geographic spread and scale	
Relationship management	
Industry-specific offerings and expertise	
Depth of value chain	
Innovation capability	
Vision and strategy	
Platforms and proprietary tools	
Pricing	
Investments and ecosystem	
OneOffice alignment	
Voice of the customer	

Strengths	Development opportunities
• Strategy and offerings focus • Key differentiators • Technology innovation • OneOffice alignment • Customer kudos	• What we'd like to see more of • Customer critiques

Strengths of the service provider based on mentioned parameter

HFS and customer feedback recommendations for the service provider to develop

Analyst's understanding of strategy, metrics, programs, and perception

Sections and headings are standardized for all profiles

Geographic spread of clients	Client engagement distribution as per value chain	Global resource distribution	Pricing	Engagement by segments

Industry 4.0-relevant acquisitions and partnerships	Key clients	Global operations and resources	Industry 4.0 in-house platform and tools
• Recent acquisitions that have added to Industry 4.0 provider services • Key partnerships that contribute to Industry 4.0 providers services	Number of clients and key client names **Client distribution across industries**	• Headcount dedicated to and available for Industry 4.0 • Delivery location breakdown and key centers of excellence, etc.	• Intellectual property (IP), platforms, and tools key to Industry 4.0

Scaled provider with consulting and innovation focus

accenture

Dimension	Rank
HFS Top 10 position	1
Ability to execute	1
Geographic spread and scale	1
Relationship management	2
Industry-specific offerings and expertise	1
Depth of value chain	1
Innovation capability	1
Vision and strategy	1
Platforms and proprietary tools	6
Pricing	8
Investments and ecosystem	1
OneOffice alignment	1
Voice of the customer	2

Strengths

- **Strategy and offerings focus.** Accenture formed Industry X as a new service line focused on digitizing engineering, technology implementation, and manufacturing. Industry X includes dedicated resources from Accenture Technology Centers, Security, Operations, Interactive, and the Capability Network. The Industry X team includes 26,000+ specialized consultants from Strategy & Consulting.
- **Key differentiators.** Accenture Industry X has the largest digital engineering and manufacturing practice (in terms of the number of clients and resources) among the service providers included in this study. Accenture's offerings and solutions (Digital Service Factory, Smart Connected Products and Platforms Hub, etc.) provide value propositions through a combination of operational efficiency and new revenue and business models. It also leverages Innovation Architecture to enable clients from POC to full-scale implementation. Accenture completed 20+ acquisitions in the Industry 4.0 domain to acquire niche capability and expand the practice. Its largest acquisition is umlaut, with 4,200+ professionals across 50+ locations. Some of its key differentiators in this space are digital thread, digital twin, AI, and cybersecurity.
- **Technology innovation.** Accenture has 30+ innovation centers in different technologies like industrial automation, IoT, digital twin, and analytics. It also invests and collaborates with emerging technology players through Accenture Ventures. Through Accenture Ventures, it developed Project Spotlight, an immersive engagement and investment program targeting emerging technology software businesses. Accenture has 30+ innovation centers across different technology areas. It has collaborated with leading educational institutions like WINLAB, Rutgers University, UC Irvine, and MIT to build capabilities in the areas of supply chain, AI, edge computing, and 5G.
- **OneOffice alignment.** Accenture built the Digital Service Factory (myDigitalThread, Operations Digital Twin), a customizable set of end-to-end digital execution capabilities addressing the full value chain of services, including strategy, implementation, and managed services. It has also invested in Industry X Academy for both consulting and engineering professionals.
- **Customer kudos.** Clients praised Accenture's innovation's capability to integrate across the company's tech stack.

Development opportunities

- **What we'd like to see more of.** Accenture has demonstrated strong capability in software-defined engineering. It can focus on relatively unpenetrated segments like industrial robotics. Its acquisition of Pollux can be a step toward this direction.
- **Customer critiques.** Clients expect Accenture to speed bringing talent on board and increasing the number of people with industry knowledge.

Geographic spread of clients
- North America 40%
- Europe 40%
- Asia Pacific, the Middle East, Africa 20%

Client engagement distribution as per value chain
- Advisory 20%
- Productization 60%
- Operations 20%

Global resource distribution
- Onshore 30%
- Nearshore 20%
- Offshore 50%

Pricing
Not disclosed

Engagement by segments
- Advisory stages 15%
- PoC/pilot 25%
- Production 60%

Industry 4.0-relevant acquisitions and partnerships

Recent acquisitions (2020-2021)
- umlaut, T.A Cook, Advoco, DI Square, ESR, ESP, Zielpuls, Mindtribe, Pillar, Designaffairs, Mackevision, FutureMove Automotive, Nytec, VanBerlo, PLM Systems, Salt Solution, Pollux, Electro 80

Partnerships
- **Robotics and cobots:** AWS, Microsoft, Google Cloud
- **Manufacturing automation:** ERP, SAP, Oracle, Infor, Dassault, GE Digital, PTC, Aspen Tech, AVEVA, Werum, Plex, Parsec, Siemens, Rockwell, Schneider Electric, JCI, Honeywell, Emerson
- **3D printing:** Autodesk, Dassault, SAP, Stratasys, EOS, Ultimaker, Additive3D, 3D Systems, Carbon 3D, Triumpf, Renishaw, MIT, IAM3D Hub, IaaC, Materialize, Shapeways, Altem, ShaperJet, Six-O, Trikolaa Tech
- **Analytics and AI applications:** AWS, SAP, Microsoft, Google, IBM, GE, IFS, IBM, Infor, Dynamic Action, OSISoft, Salesforce, SAS, Splunk Cognite, Blue Yonder, AVEVA, GE
- **Digital twin or simulation:** Microsoft, AVEVA, Hexagon, Cognite
- **AR/VR):** SAP, Unreal (Epic Games), NVIDIA, Microsoft, AWS, PTC Vuforia, Strivr, Talespin, Upskill, HTC Vive, Meta; working with but no paperwork in place currently—Kognitiv Spark, Motive.io, Teslasuit, Vuzix, Librestream, Matterport, Realwear, Dassault, Varjo, Magic Leap
- **5G:** Cisco AT&T, Nokia, Ericsson, Huawei, Verizon, Vodafone, Telefonica, Orange, Deutsche Telekom, Telecom Italia

Key clients

Number of Industry 4.0 clients: 1,500
Client size >$10 billion: 35%
Including
- CNH Industrial
- Marelli
- Dupont

Client distribution across industries

Industry	
Industrial	25%
Energy, utility, oil and gas	20%
Consumer goods products	15%
Consumer electronics, high tech	10%
Automotive	5%
Aerospace	5%
Transportation	5%
Chemicals	5%
Medical devices	5%
Semiconductor	5%

Global operations and resources

Industry 4.0 headcount: 26,000

Delivery locations
- Worldwide, including North and South America, Europe, and Asia

Industry 4.0 in-house platform and tools

- **Advisory frameworks:** Digital Maturity Assessment (value mapping, business case, metrics/KPI, and ideation tool)
- **Solution accelerators:** Digital Plant, Digital Service Factor, Digital Workforce Platform, OSIsoft Package Accelerators
- **Packaged platforms:** AIP+, Intelligent Asset Management, Asset Management Standards & Processes, Asset Management Systems Enablement, Smart Connected Assets & Analytics, Intelligent Engineering & Manufacturing Platform, Digital Thread & Twin Assets, Engineering and R&D Cloud Platform
- **Patent:** 1000+ Industry X and Intelligent Edge

Excerpt for Accenture

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Mayank Madhur is an Associate Director, Research at HFS Research, supporting different practice leads in industry research, IoT, and supply chain by working on data analysis, PoVs, and research writing.

He holds a certificate in Strategic Management from IIM Kashipur. Mayank holds a Master's in Business Administration from Birla Institute of Technology and Science College, Pilani (BITS, Pilani University) and a Bachelor's in Engineering in Electrical and Electronics from Jawaharlal Nehru National College of Engineering (Visvesvaraya Technological University), Karnataka.

Tom Reuner is Research Leader at HFS. Tom is responsible for managing the HFS IT Services practice with coverage areas including cloud native, application modernization, and quality assurance. Furthermore, Tom covers the emerging ecosystems of ServiceNow, Salesforce, and Pega. Leveraging his long entrenchment in the automation community, Tom drives HFS' thought leadership on automation. A central theme of his research is the orchestration and increasing interdependency of approaches such as RPA, AIOps, Observability, and AI. He is also managing the Top 10 program to ascertain consistency and thought-leadership.

Prior to HFS, Tom worked as Head of Strategy at Arago. His deep understanding of the market dynamics comes from having held senior positions at analyst firms including Gartner, IDC, and Ovum, where his responsibilities ranged from research and consulting to business development.

About HFS

Insight. Inspiration. Impact.

HFS is a unique analyst organization that combines deep visionary expertise with rapid demand side analysis of the Global 2000. Its outlook for the future is admired across the global technology and business operations industries. Its analysts are respected for their no-nonsense insights based on demand side data and engagements with industry practitioners.

HFS Research introduced the world to terms such as "RPA" (Robotic Process Automation) in 2012 and more recently, the HFS OneOfficeTM. The HFS mission is to provide visionary insight into the major innovations impacting business operations such as Automation, Artificial Intelligence, Blockchain, Internet of Things, Digital Business Models and Smart Analytics.

HFS TOP 10

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