

IRI 2026

INNOVATORS SUMMIT

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Innovation Teams of the Future: Defining the Skills for What's Next

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Converging Forces Driving Change in the Technical Workforce

Artificial Intelligence

Machine learning and automation reshaping roles and skill requirements

Demographics

Shifting workforce age profiles and evolving talent expectations

International Talent

Global competition for skilled workers and talent migration patterns

Uncertainty & Disruption

Economic volatility and rapid technological change creating new challenges

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Project Objectives

Define the capabilities companies must deliberately develop and prioritize in building their R&D teams over the next five years, given the rapid pace of change.

Primary audience: Member companies (CTOs, R&D leaders), IRI

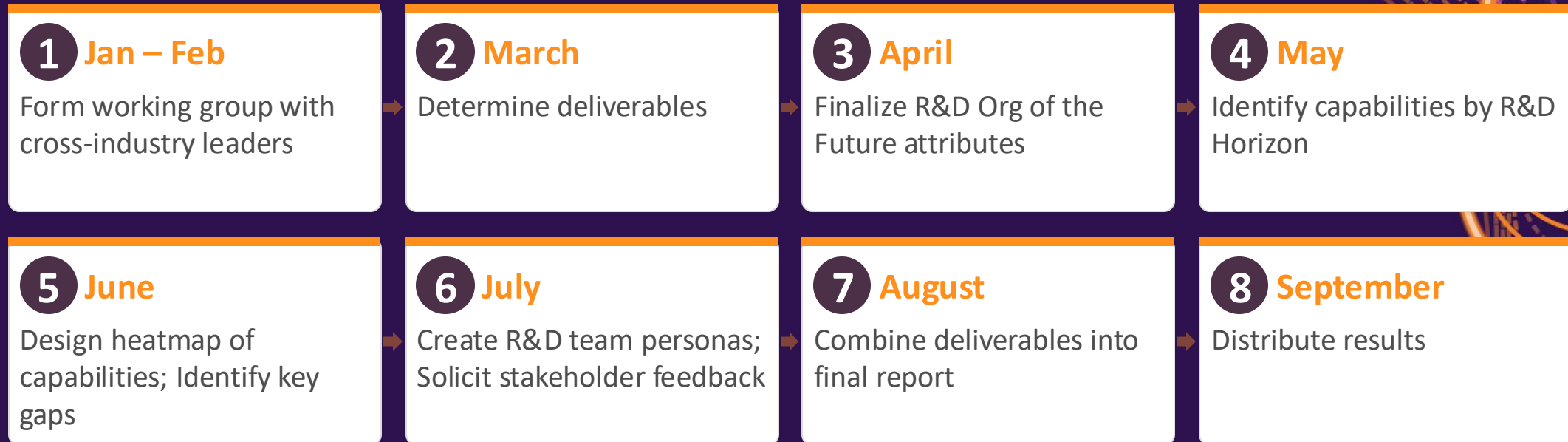
Secondary audiences: Higher education, policymakers

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Future R&D Capabilities Project



WORKING GROUP

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Future R&D Capabilities Project

DELIVERABLES

✓ Complete

The R&D Organization of the Future

Ways of Working

1

Current

Heat Map of Skills Needed

2

In Progress

Top Capability Gaps

3

In Progress

R&D Team Personas

4

Session Plan

***Goal:** Identify the top skills and capabilities needed in R&D teams five years from now based on the team's focus (Horizon 1, 2, or 3).*

Agenda:

1. Whole group:
 - a. Review 'The R&D Organization of the Future – Ways of Working'
2. Breakouts:
 - a. Identify skills and capabilities needed by attribute
 - b. Determine level of importance per Horizon
3. Report out:
 - a. What was the top skill for each attribute?

The R&D Organization of the Future – Ways of Working

The future R&D function of a global organization will not just be globally distributed- but rather AI-enabled, platform driven, and ecosystem integrated. The organization will operate as a dynamic network over a fixed structure while combining internal expertise with external partnerships to accelerate learning and value creation. Speed, adaptability, and the ability to orchestrate across boundaries will define competitive advantage.

1. Globally Distributed R&D Structure

Dynamic Network: R&D is carried out in a focused set of locations, chosen deliberately for their access to critical talent, specialized expertise, and market insight.

Centers of Excellence and Project-Based Teams: Core teams build and maintain expertise, while project teams form as needed to tackle specific priorities.

2. Collaborative Culture and Cross-Functional Integration

Cross-functionality: As organizations adopt new tools and face emerging challenges, different functions will need to collaborate in novel ways - reducing silos and mapping resources strategically.

Building Trust, Influence, and a Culture of Openness: Leaders are expected to create opportunities for connection to promote idea sharing and knowledge while also guiding multi-year thinking and long-term roadmapping.

3. Technology-Enabled R&D

Ubiquitous Technology: Advanced tools such as AI and quantum computing are embedded across the R&D lifecycle, with AI and humans working as one team - accelerating complex problem-solving and integrating market and customer insights.

Advanced Discovery: Advanced tools accelerate the discovery of new materials and other industry-specific breakthroughs, which are quickly integrated into roadmaps.

4. Ecosystem Partnerships and Open Innovation

Aligning the Partner Network: External versus internal innovation is balanced based on strategic goals, with emphasis on key customer and supplier partnerships that can be activated quickly to capture VOC, assess new opportunities, and accelerate development.

Managing IP, Data, and Trust: As collaboration increases, so does the need for clear approaches to intellectual property, data sharing, and governance, ensuring that openness does not come at the expense of competitive advantage.

5. Agility, Speed, and Impact

Increased Pace of Innovation: R&D organizations are expected to move faster, adapt continuously, and respond to shifting priorities and external pressures.

Dynamic Resource Allocation: Investment and talent shift quickly toward the most promising opportunities, based on real-time decision-making with the ability to scale up or down as needed.

6. Integration of Business Strategy and Insights

Clear Link to Business Value: R&D is tightly aligned with business strategy and guided by ongoing input from customers, markets, and external trends. Investment decisions and performance metrics are coordinated across all three horizons to effectively deliver the business strategy.

Strategy Through Insight: R&D translates signals from technology, customers, and markets into long-range insight that shapes enterprise direction and investment priorities.

7. Knowledge Integration and Continuous Learning

Connected Knowledge Systems: Knowledge is treated as a core asset that is captured and then integrated into workflows to accelerate innovation.

Culture of Learning and Experimentation: Teams are encouraged to test ideas, learn quickly, and share results openly with a willingness to take informed risks while learning from failure.

8. Operating in a More Complex World

Resilience and Adaptability: R&D organizations must navigate increasing external complexity, maintaining continuity and momentum in innovation and growth by rapidly adapting to disruptions.

Sustainability and Climate Impact: R&D plays a central role in addressing sustainability challenges, including the impacts of climate change and energy consumption, through new technologies, materials, and processes.

Draft Skills and Capabilities for the R&D Team of the Future

1. AI Fluency and Human–AI Collaboration

Ability to work effectively with AI tools across the R&D lifecycle—knowing when to trust, question, and augment AI outputs rather than treating them as black boxes

2. Systems Thinking and Network Orchestration

Comfort operating in a dynamic, networked organization—connecting expertise across geographies, functions, and partners.

3. Cross-Functional Collaboration

Capability to work seamlessly across R&D, manufacturing, IT, and other functions to solve complex, multi-dimensional problems.

4. Strategic Insight Translation

Skill in translating weak signals from technology, customers, markets, and ecosystems into actionable insights that inform long-term R&D and business strategy.

5. Agile Execution and Adaptive Planning

Ability to shift priorities, timelines, and approaches quickly in response to new information, while still maintaining momentum and focus on impact.

6. Advanced Discovery and Digital Experimentation

Comfort using advanced digital tools (e.g., simulation, data-driven discovery, AI-enabled experimentation) to accelerate learning and reduce time to insight.

7. Ecosystem and Partner Management

Capability to engage, activate, and collaborate with external partners—customers, suppliers, startups, universities—while aligning efforts to strategic goals.

8. Intellectual Property and Data Stewardship

Understanding how to manage IP, data sharing, and governance in open and collaborative environments without eroding competitive advantage.

9. Business Value Orientation

Ability to link R&D work directly to business outcomes—growth, margin, risk reduction, or sustainability—across short-, mid-, and long-term horizons.

10. Learning Agility and Continuous Upskilling

Willingness and ability to continuously learn new tools, methods, and domains, recognizing that skill requirements will evolve faster than formal roles.

11. Knowledge Integration and Reuse

Skill in capturing, curating, and reusing knowledge across projects and platforms so learning compounds rather than resets with each initiative.

12. Influence Without Authority

Ability to build trust, align stakeholders, and move work forward across boundaries where formal reporting lines may not exist.

13. Resilience and Change Navigation

Capacity to operate effectively amid uncertainty, disruption, and external shocks while maintaining focus on long-term innovation objectives.

14. Sustainability and Climate Literacy

Understanding how sustainability, climate impact, and energy considerations shape R&D priorities, technology choices, and future competitiveness.

15. Responsible Risk-Taking and Experimentation

Comfort testing ideas, learning from failure, and making informed bets—balancing speed and experimentation with rigor and accountability.

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Identify Skills and Capabilities and their Level of Importance per Horizon

1. Globally Distributed R&D Structure

Dynamic Network: R&D is carried out in a focused set of locations, chosen deliberately for their access to critical talent, specialized expertise, and market insight.

Centers of Excellence and Project-Based Teams: Core teams build and maintain expertise, while project teams form as needed to tackle specific priorities.

Skills and Capabilities Needed:

Skill/Capability	Horizon 1 Level of Importance	Horizon 2 Level of Importance	Horizon 3 Level of Importance



What was the top skill/capability for each attribute?

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The background features decorative wavy lines in orange and purple, some solid and some dashed, creating a dynamic, flowing pattern. The central text is white and consists of a stylized logo followed by the letters 'M.'.

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