INNOVATION RESEARCH INTERCHANGE
Accelerating Value Creation

A division of the National Association of Manufacturers

Fail Fastest

The Power of Integrated Learning Plans in Building High-Impact R&D Teams

David Matheson, President and CEO

Doug Williams, Assoc. Dir., Innovation

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IRI 2025 INNOVATORS SUMMIT

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ambiguity
complexity
Convert uncertainty to opportunity
disruption
conflict

David Matheson
President and CEO, SmartOrg

Doug Williams
Associate Director, Innovation

SmartOrg: 20+ years in strategic portfolio and innovation management

Pharmaceuticals
- Teva Pharmaceuticals
- Inspire Pharmaceuticals
- KV Pharmaceuticals
- Jazz Pharmaceuticals
- Catalent

Medical Device
- Stryker Neurovascular
- Philips (Respironics)
- Varathon
- Zimmer
- Medtronic

Agriculture
- Bayer Crop Science
- Pioneer Seeds
- DuPont Crop Protection
- Corteva Agriscience
- Christensen Farms

Materials
- Rogers Corporation
- DuPont
- Hexion
- GAF

Semiconductor
- Intel
- SanDisk
- Applied Materials
- Orbotech
- Texas Instruments

Equipment
- Ingersoll-Rand
- Eaton
- Scholle Packaging

Energy
- ExxonMobil
- Chevron

Consumer Products
- SaraLee
- VF
- Kimberly Clark

Communications
- Sprint
- T-Mobile
- Cisco
- Smiths Interconnect

IT
- Apple
- Google
- Microsoft
- HP

Other
- Boeing
- Sony Pictures
- The Nature Conservancy

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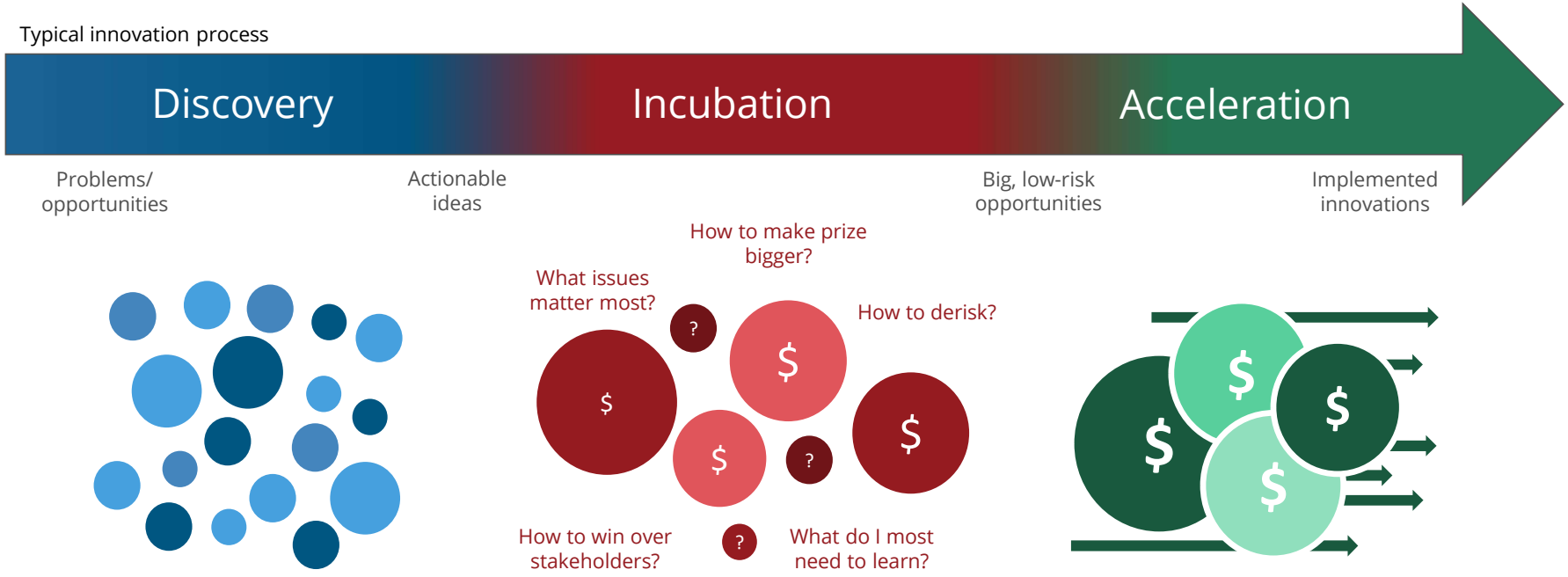
ALL INNOVATION PROJECTS HAVE RISK. HOW DO YOU KNOW WHICH ARE WORTH IT?

How do you explore the upside and minimize the downside risk in your innovation opportunities?



SCOUTING NEW AREAS

Find ideas worth seriously considering

NAVIGATING TRICKY TERRAIN

Drive upside, reduce downside, build confidence

PURSUING A CLEAR PATH

Execute through stages, phases, gates, approvals, etc.

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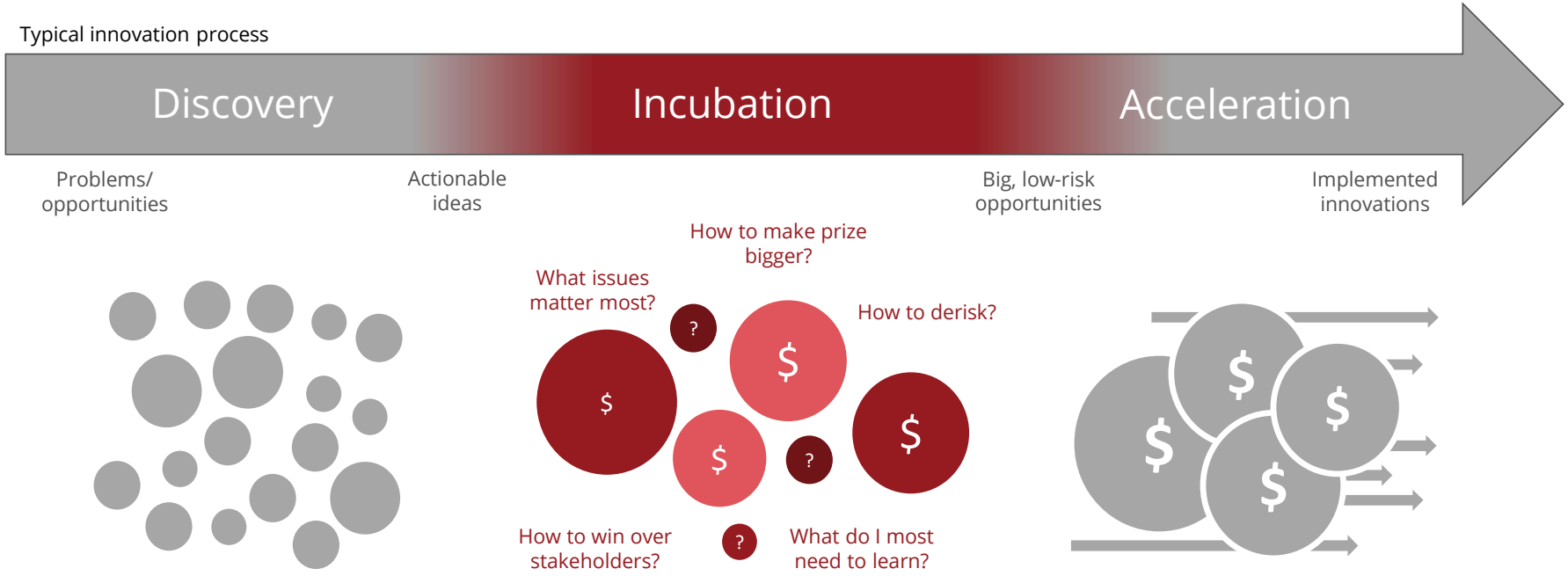

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Workshop objectives

- Discover an incubation approach that aligns all stakeholders on how to improve confidence in the business case
- Have an “a-ha!” moment about how a “fail fastest” approach could positively influence your innovation/R&D process
- Make connections and build community
- Sign up for Part 2 of the workshop!

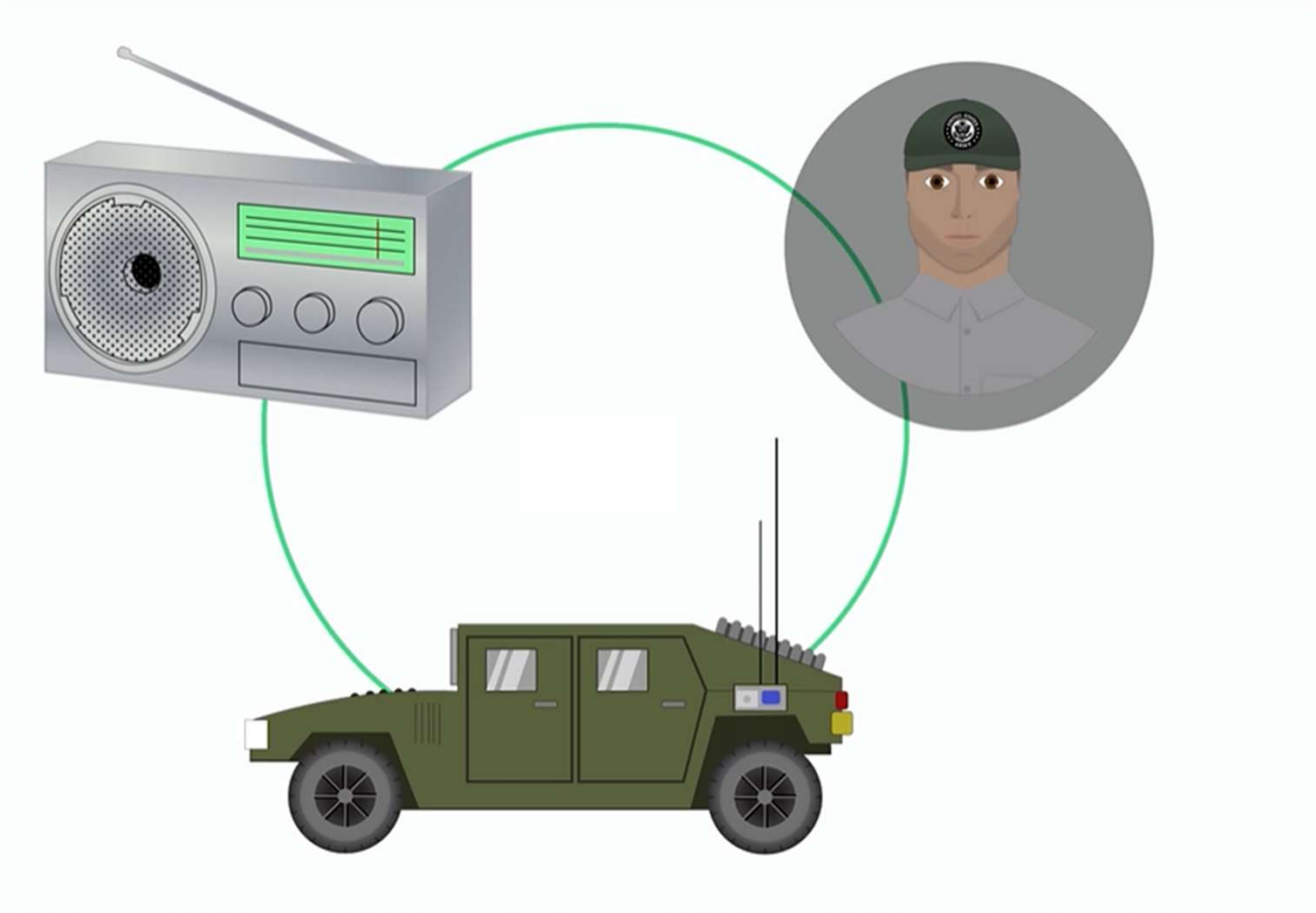
Table introductions

- Around the table, 30 seconds each
  - Name
  - Company
  - One challenge you face during the Incubation phase of innovation

- Pick 1-2 challenges to share with the room

Case study: Rogers Corporation and Frequency-Hopping Radios

The initial business case included US Army Rangers and spec'ing vehicles with the new frequency-hopping radios



Project name/ description:	Rogers Corp.: Frequency-hopping radios	Baseline value estimate:	$1B

Issue	Reason for upside		Reason for downside		
Customer acceptance	Pilot customers are very satisfied		Pilot customers are somewhat satisfied		
Incorporating tech into radios & vehicles	Efficient installation		Costly installation		
Demonstrating performance	Technology 100% reliable		Technology not 100% reliable		
Qualification of materials	Feasible materials available at low cost		Feasible materials available at high cost		

Table activity: Subjective prioritization of Issues

- Work a unique project for either Pear Computer or Athena Athletics
- Get familiar with your project and its assumed baseline value
- Open Envelope 1
  - Remove the four Issue notecards
  - Review each card to create a shared understanding of the Issue
  - Discuss the impact you think each Issue might have on the value of the project
  - Put the four Issue cards in priority order based on what you think you need to learn

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★ Demonstrating performance	Technology 100% reliable		Technology not 100% reliable		
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Then the Finance team got involved…

…and concluded it was too small!

The team thought they knew the right path forward…

…but they were wrong!

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Project name/ description:	Rogers Corp.: Frequency-hopping radios	Baseline value estimate:	$1B

Issue	Reason for upside	Upside est. ($)	Reason for downside	Downside est. ($)	Swing ($)
Customer acceptance	Pilot customers are very satisfied	$1.3B	Pilot customers are somewhat satisfied	$700m	$600m
Incorporating tech into radios & vehicles	Efficient installation	$1.05B	Costly installation	$800m	$250m
Demonstrating performance	Technology 100% reliable	$1.1B	Technology not 100% reliable	$700m	$400m
Qualification of materials	Feasible materials available at low cost	$1.25B	Feasible materials available at high cost	$800m	$450m
OEM standardization	OEM standardizes on our tech	$2.5B	No standardization	$1B	$1.5B

Table activity: Objective prioritization of Issues

- Now open Envelope 2
  - Same four Issues, but now you know the value of the “swing”
  - Examine your initial prioritization and the new information
  - Put the four new Issue cards in priority order next to the original set

Discussion

- Where does friction exist in your process?
- How might this method apply in your world?

Key takeaways

- Issue scanning identifies the critical areas that will drive both upside opportunity and downside risk
- Building a business case early on provides an opportunity to quantify the uncertainty associated with each issue
- Objective data creates alignment on what most needs to be learned for the opportunity to be successful
- A Learning Plan sets forth the experiments to conduct that will build confidence in the business case

IRI WORKSHOP PART 2

FAIL FASTEST

PRIORITIZE LEARNING ACROSS THE PORTFOLIO WITH THE DE-RISK DASHBOARD

June 4, 2025
9:00AM PT

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Convert Uncertainty to Opportunity

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Innovation Navigator®

Accelerate the path from risk to upside

Learn more: https://bit.ly/4j5Hwtm

Appendix

Innovation Navigator converts uncertainty into opportunity

Avoid late-stage surprises by targeting innovation blind spots

Build confidence in the business case by prioritizing learning where uncertainty is high

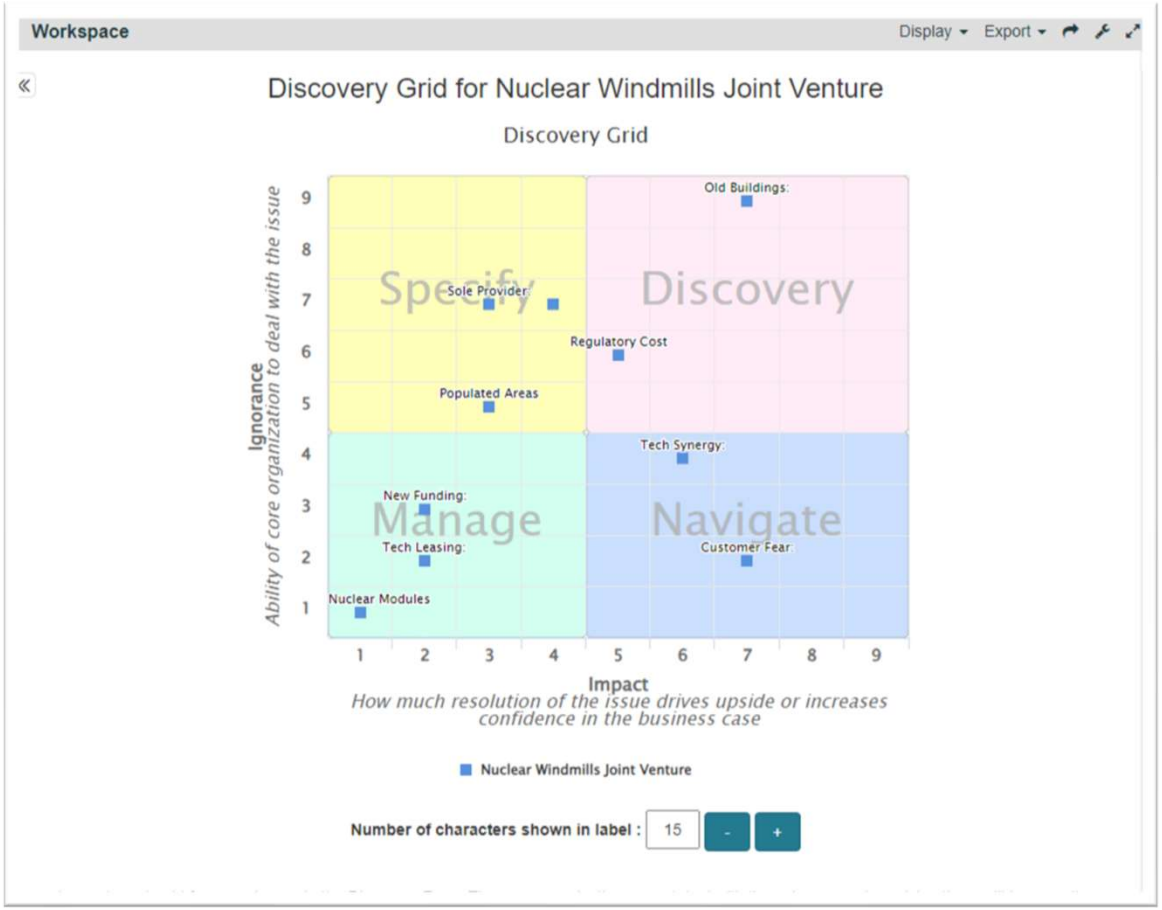
Create momentum and support through stakeholder alignment

Accelerate decisions and outcomes across the portfolio through efficient allocation of resources

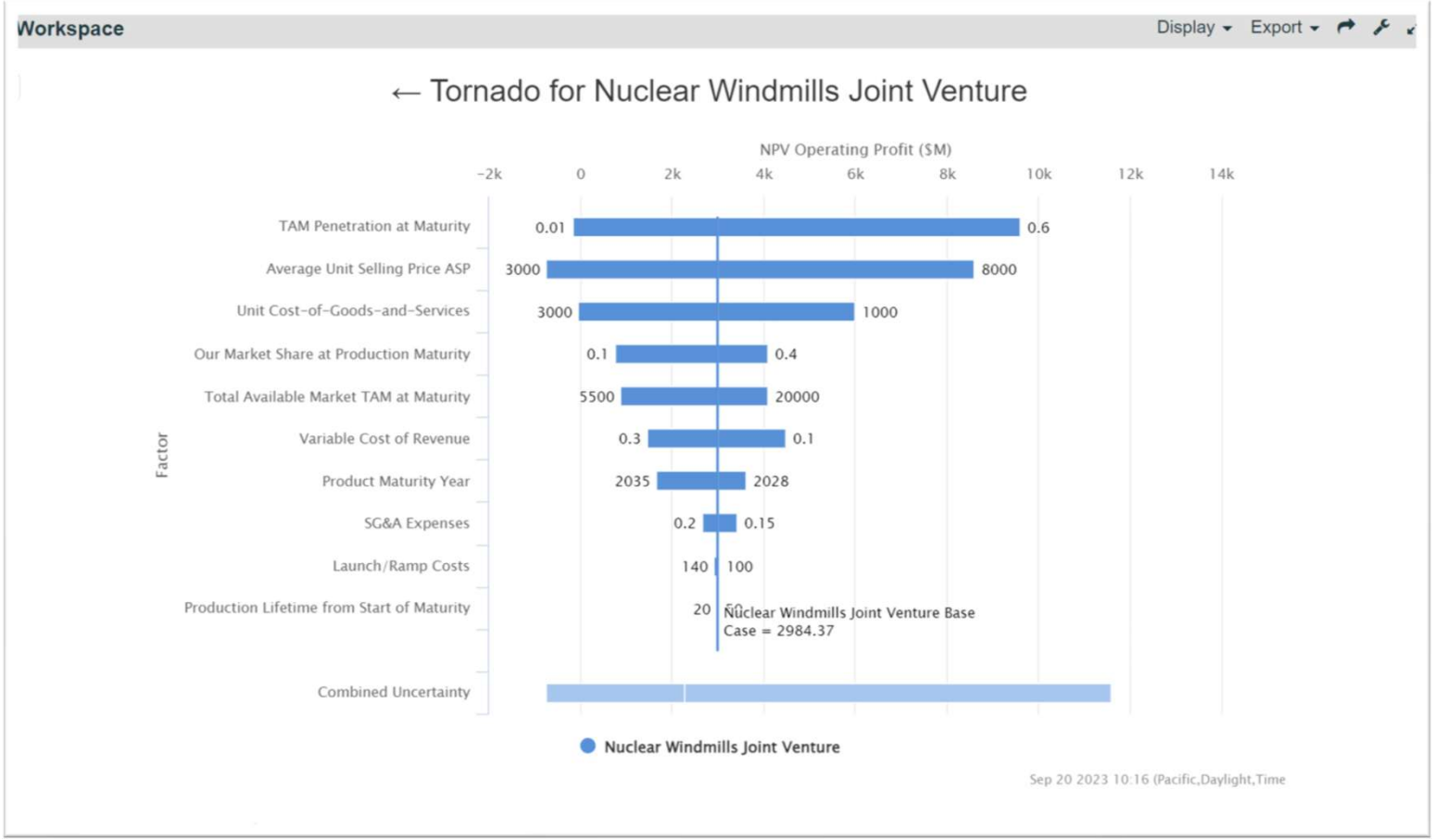
Innovation Navigator systematizes this method at the project and portfolio level

- Identify and create issues using digital sticky notes
- Configure a business case template that matches your needs
- Map issues to business case factors
- Build the business case with ranges of assumptions (high, low, base)
- See where high uncertainty exists in the business case and to which issues uncertainty is linked
- Run experiments on issues that will most improve confidence in the business case
- Adopt a portfolio approach to prioritize learning that will best allow you to meet growth goals

Gain clarity on prioritized actions from the Discovery Grid, which plots issues according to the Ignorance and Impact rankings



The Tornado Diagram visually demonstrates which business case factors disproportionately drive the potential of the innovation



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The De-Risk Dashboard tells you what most needs to be learned to build confidence in the business case and its upside across the portfolio

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