



ACCELERATING
INNOVATION

**Build Your Innovation System to
Solve Problems in New Ways**

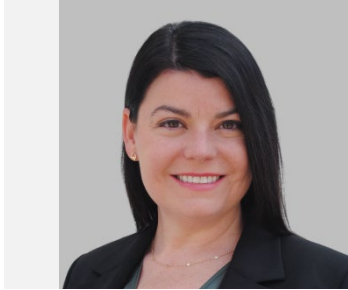
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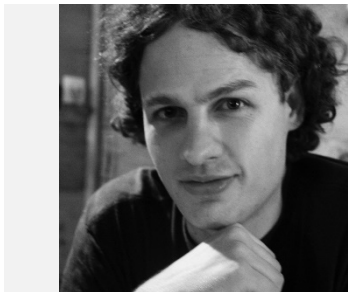
Kat Fox

Senior Innovation Manager / Emerson Measurement Instrumentation



Freddy Solis

Senior Director, Innosight



Martin Pilcher

Senior Innovation Champion, Emerson Discrete Automation

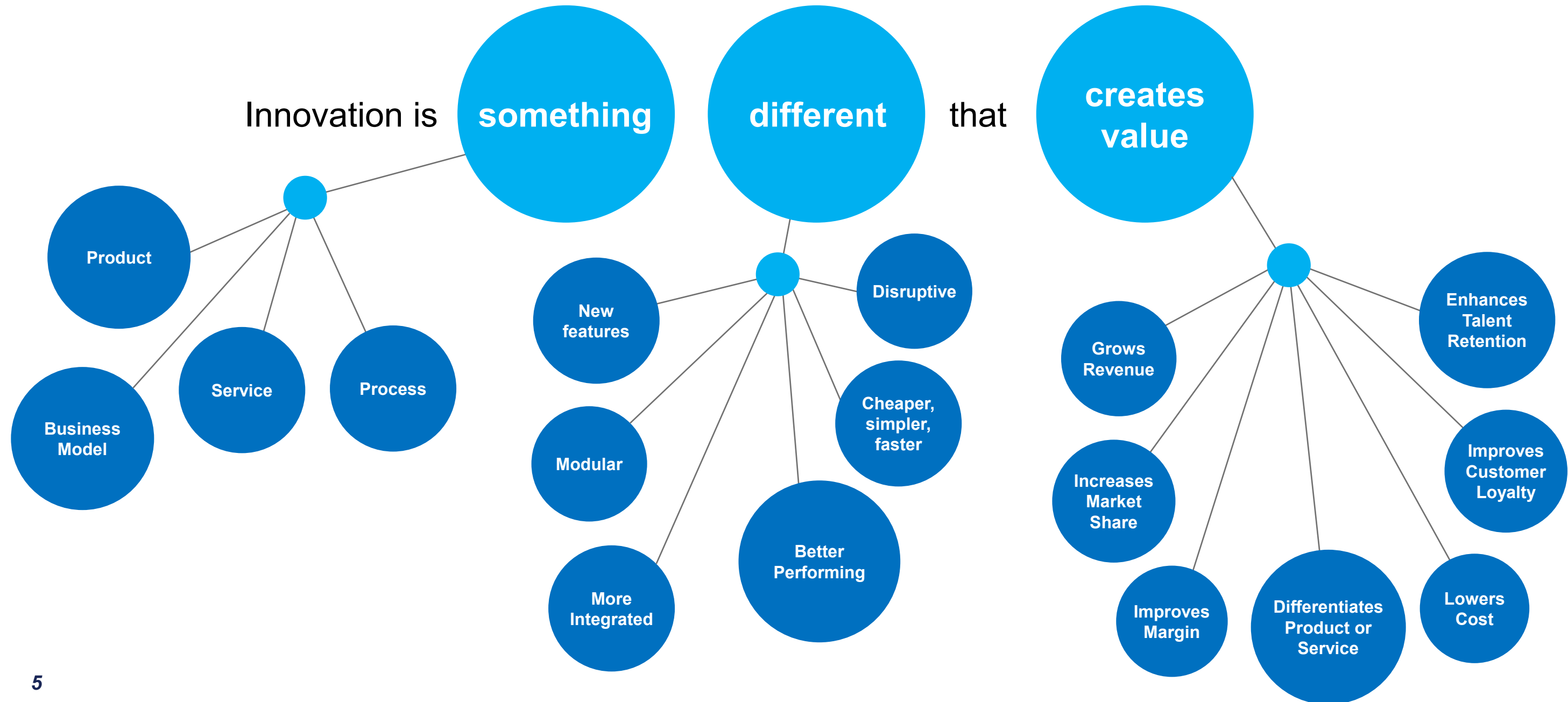




Build Your Innovation System to Solve Problems in New Ways

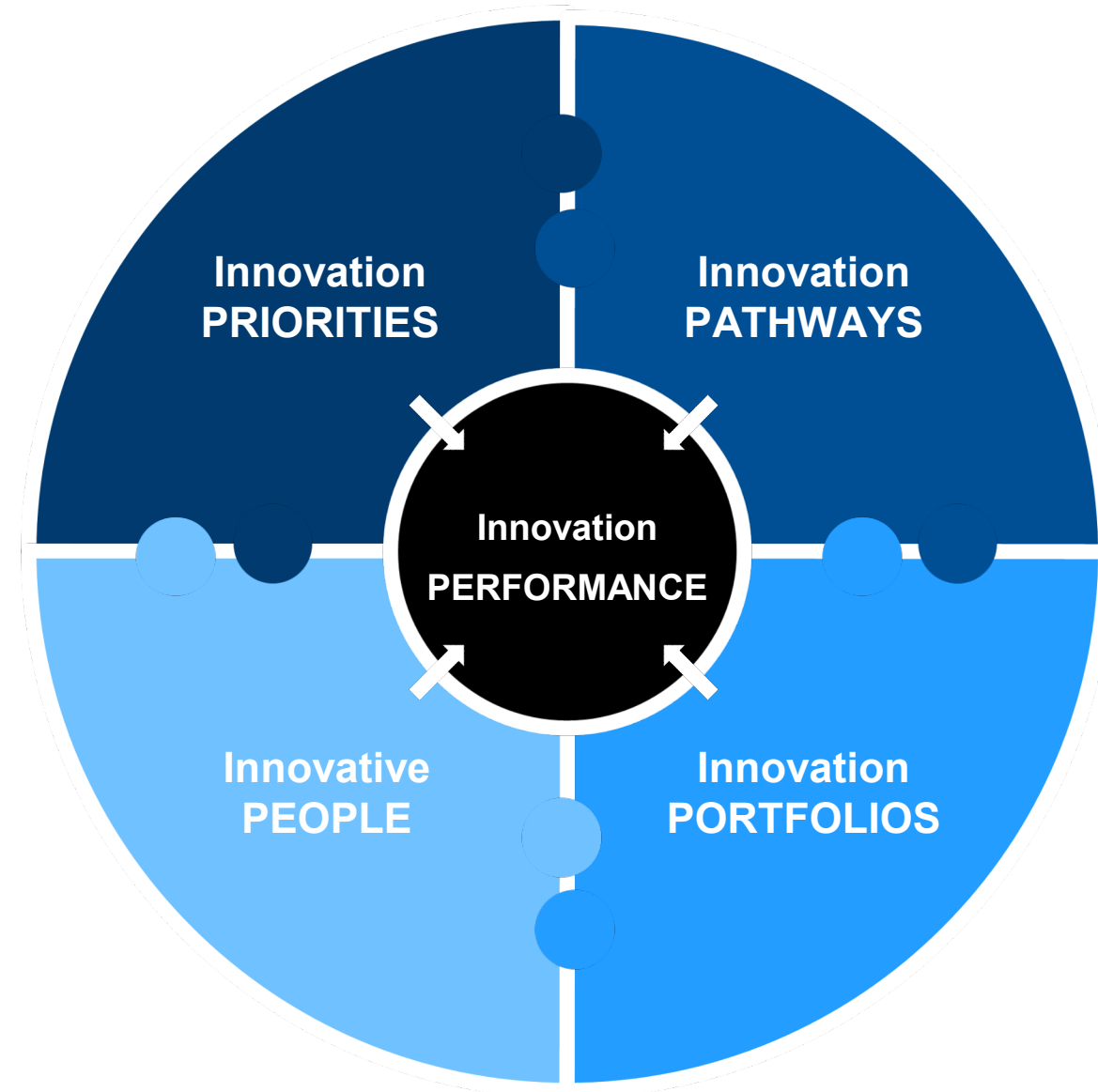
- 1 Share common challenges to innovation
- 2 Introduce the concept of an innovation system as a solution
- 3 Share best practices and examples for key components of innovation systems, based on personal experience

Starting with definitions: What is Innovation?



To navigate industry change, companies need to think in systems

It takes an *innovation system* to drive *innovation performance*



Blockers get in the way of creating a successful innovation system



We try to
innovate but...

- 1 ...bias toward **incremental improvements** to existing products vs. less certain but attractive ideas
- 2 ...are culturally **risk averse**
- 3 ...**struggle to protect resources** from the day-to-day demands of the business
- 4 ...don't have enough **customer input in product or solution development**
- 5 ...**only innovate on products**, rarely on services or business models
- 6 ...we don't have a clear way to **tie innovation ideation to strategy**

Innovation Priorities: Future Back

Innovation should start with a view of the future and work back to the present

TRADITIONAL STRATEGY

Strategy *extrapolated from present* view, current capabilities, and existing growth categories



Generally a 1- to 3-year plan based on current trends and performance



Typically extrapolated from existing model and structure



Opportunistic identification of applications that match existing product or service

FUTURE BACK STRATEGY

Strategy *based on defining tomorrow*, orienting planning around it, and uncovering new innovation categories of growth



Generally a **5-10 year plan** that integrates insights on future trends, ecosystem evolution, and stakeholders



Grounded in tomorrow's landscape, customer jobs-to-be-done, and business models



Clear high-level scope and direction with room to maneuver, tied to near-term action plan

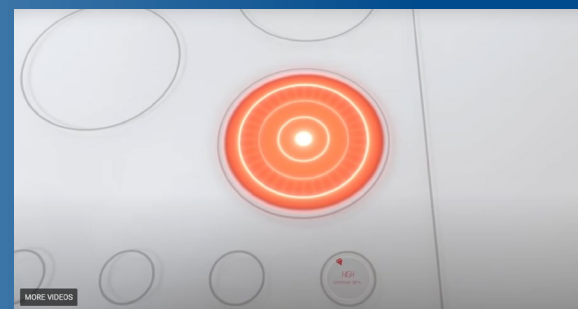
Other industrial companies are setting a vision for their future



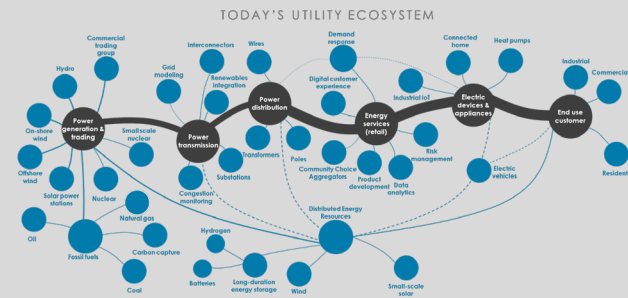
JOHN DEERE
FARM FORWARD



A DAY MADE OF GLASS



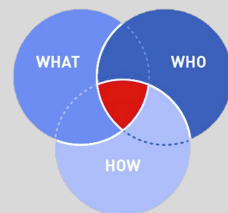
Cornerstones of a Future Back approach



Take an expansive ecosystem-wide view of the future



Anchor in your customer and their Job to be Done

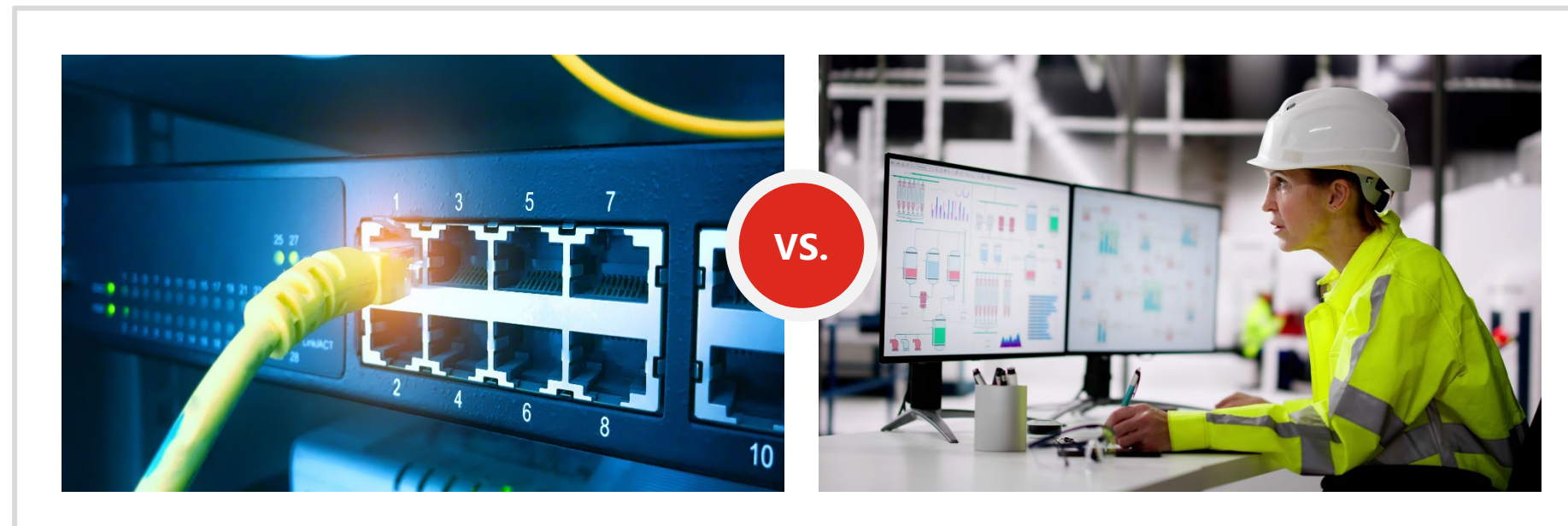


Take a disciplined approach to opportunity generation

... and ask what will matter to customers

Job to Be Done *noun:*

the **problem or goal** a **customer** is trying to solve or achieve in a particular **circumstance**



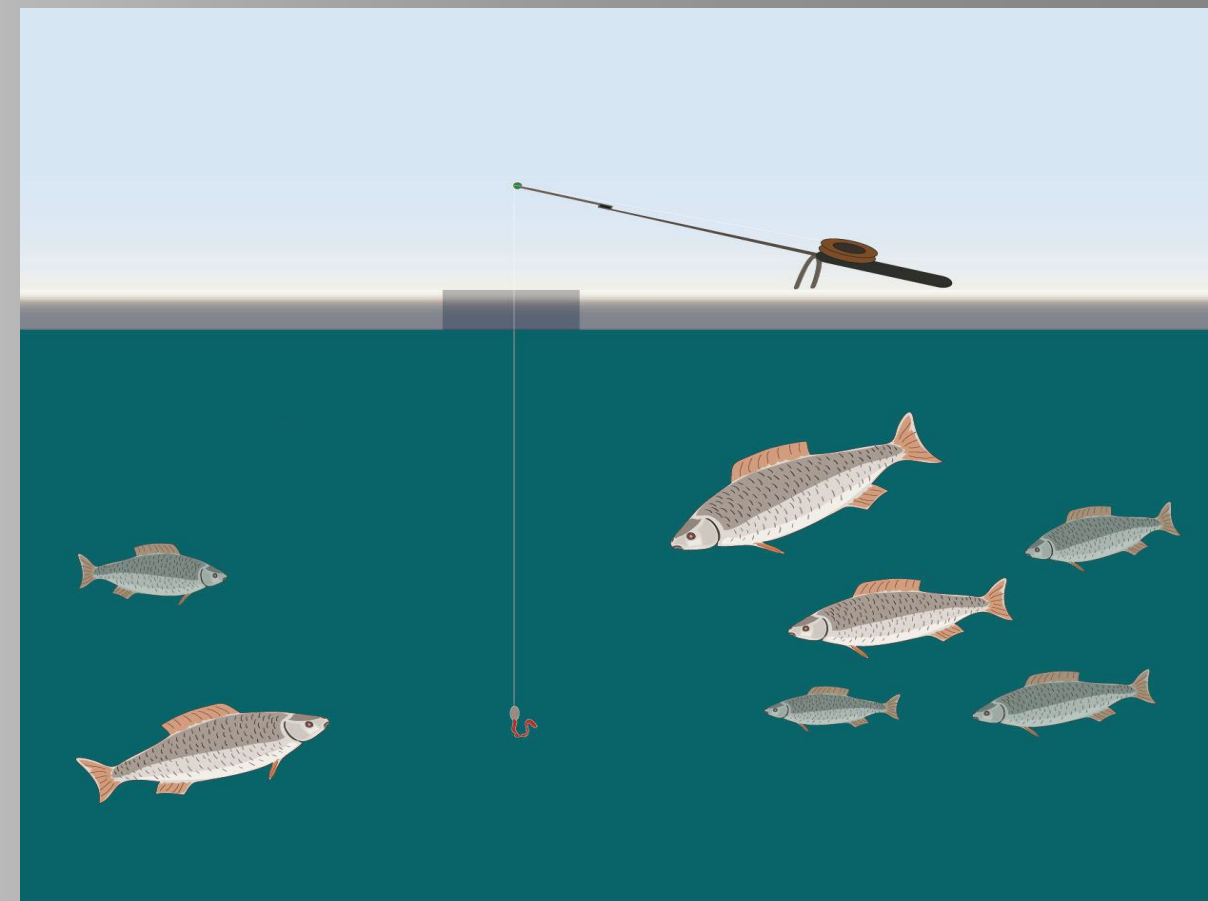
Communication tech...

...Better Decisions

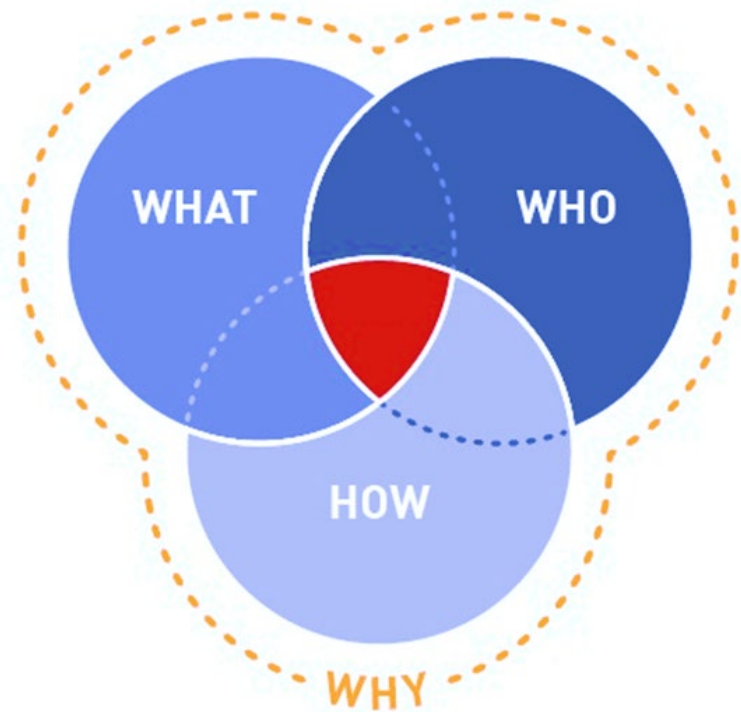
A disciplined way of identifying where to play choices leads to more robust innovation ideas

A strategic focus area **defines a fishing hole**, not the specific fish

“It’s the holes we drill, not the bait we use or the fish we catch”



We ask four questions to gain clarity on SFAs



WHAT is the important, unsatisfied job?

WHO is the customer?

HOW can we help address this job?

WHY us and why now?

Communication Technologies Example

Case Study
ILLUSTRATIVE

Ethernet-APL Communication

WHAT

Modernize communications for industrial process instrumentation

WHO

Users who are looking to build out flexible connectivity infrastructure solutions

HOW

Portfolio of modular-designed products that allow for seamless Ethernet-APL integration

WHY

- **Reliability:** APL optimizes signal integrity, minimizes latency, and provides flexible communications, allowing high-demand industrial use while maintaining consistent performance
- **Data Accessibility:** Faster data rates and more efficient transmission are supported. Its design ensures reliable data transfer to multiple systems, at high speeds, making it well suited for demanding industrial applications.

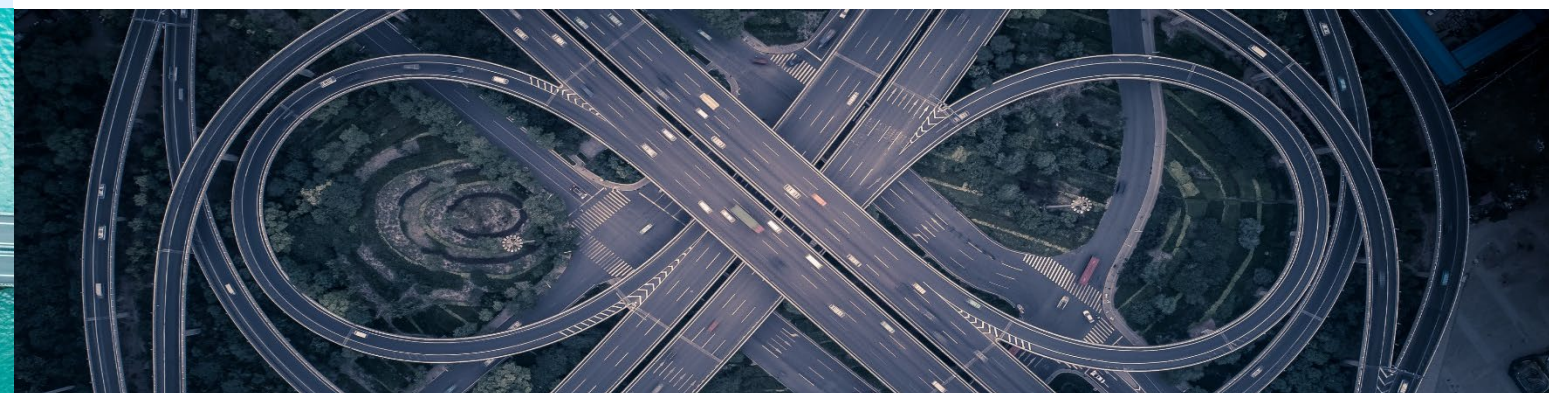
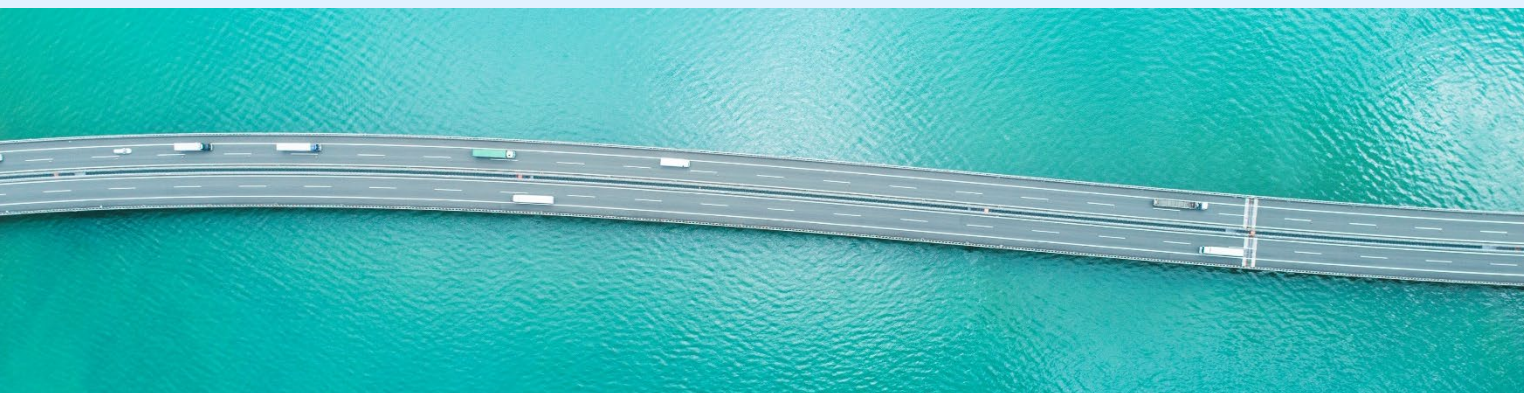
Innovation Pathways

Today many companies use their NPD process to innovate but this comes with challenges

An Innovation System complements New Product Development processes, ensuring there are clear pathways to explore innovation opportunity areas

NPD processes tend to be strong in Core Innovation to build and sustain portfolios of products tied to the existing business

...but companies need additional processes to enable non-core innovations, which require a greater degree of customer-centricity, collaboration, and business model innovation



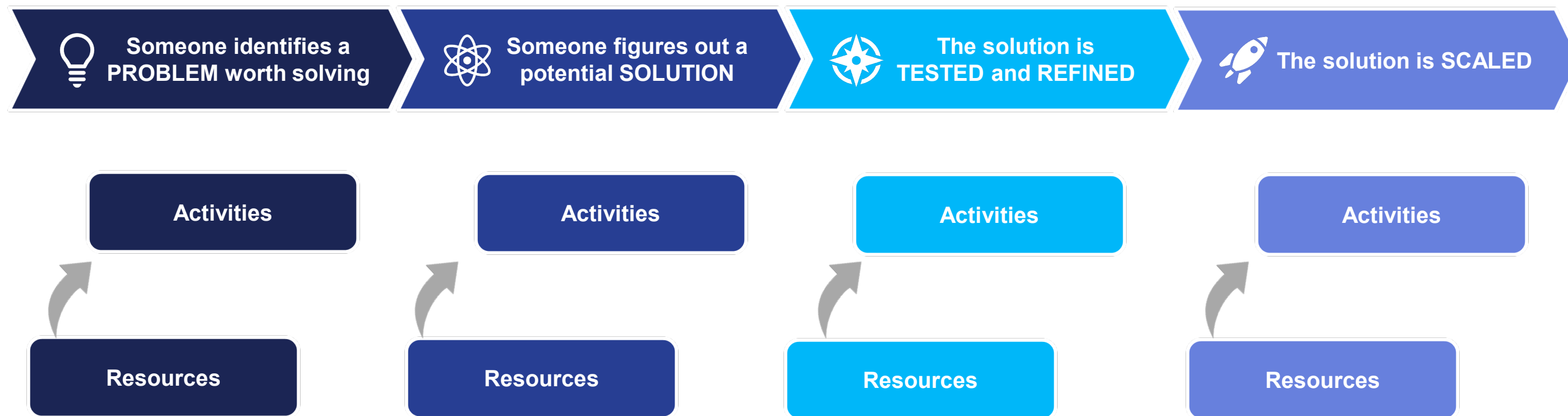
STRENGTHS

- Strong focus on improving Core offerings
- Validates engineering challenges leveraging internal expertise
- Ensures projects have a clear path to profitability
- Focused on responding to product specific customer requests

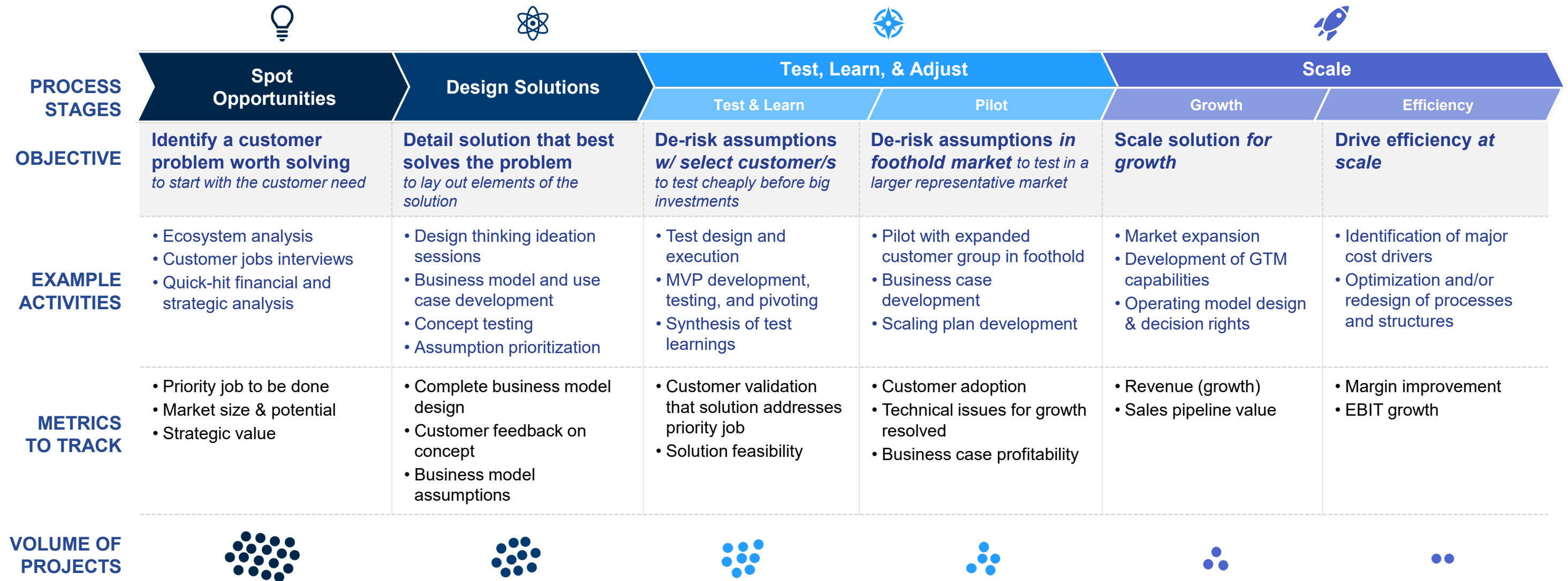
STRENGTHS

- Focuses on understanding the customer, business, & technology
- Pursues programs that cross the portfolio or have no clear home
- Allows for high-risk projects to be assessed quickly
- Focused on building our portfolio with our view of the future

What do we mean by an innovation pathway?




What do we mean by an innovation pathway?




A well-functioning non-core innovation pathway is one which allows for **safe experimentation and rapid learning**

Example Measurement Instrumentation Innovation Pathway


		Learning Levels				
		1	2	3	4	5
Dimensions	CLL Customer	Identify Customer's Current Experience	Define Customer and Identify Burning Problem	Create Customer Benefit Statements	Evaluate Concepts Value Proposition	Validate Customer Desirability
	BLL Business	Identify Potential Markets and Business Models	Define Emerson's Capability to Succeed	Create Market Profitability	Evaluate Market Profitability	Validate Business Viability
	TLL Technology	Identify Available Technology	Define Potential Technology	Create Prototype Technology	Evaluate Concepts Capability to Deliver Value	Validate Technology Feasibility



Use common language on Idea Maturity to identify our understanding of the Customer, Business, and Technology



Use tools to allow for adequate exploration and de-risking of novel ideas



Use Innovation Loops to advance Learning Levels and get to a "Bet or Fold" decision point

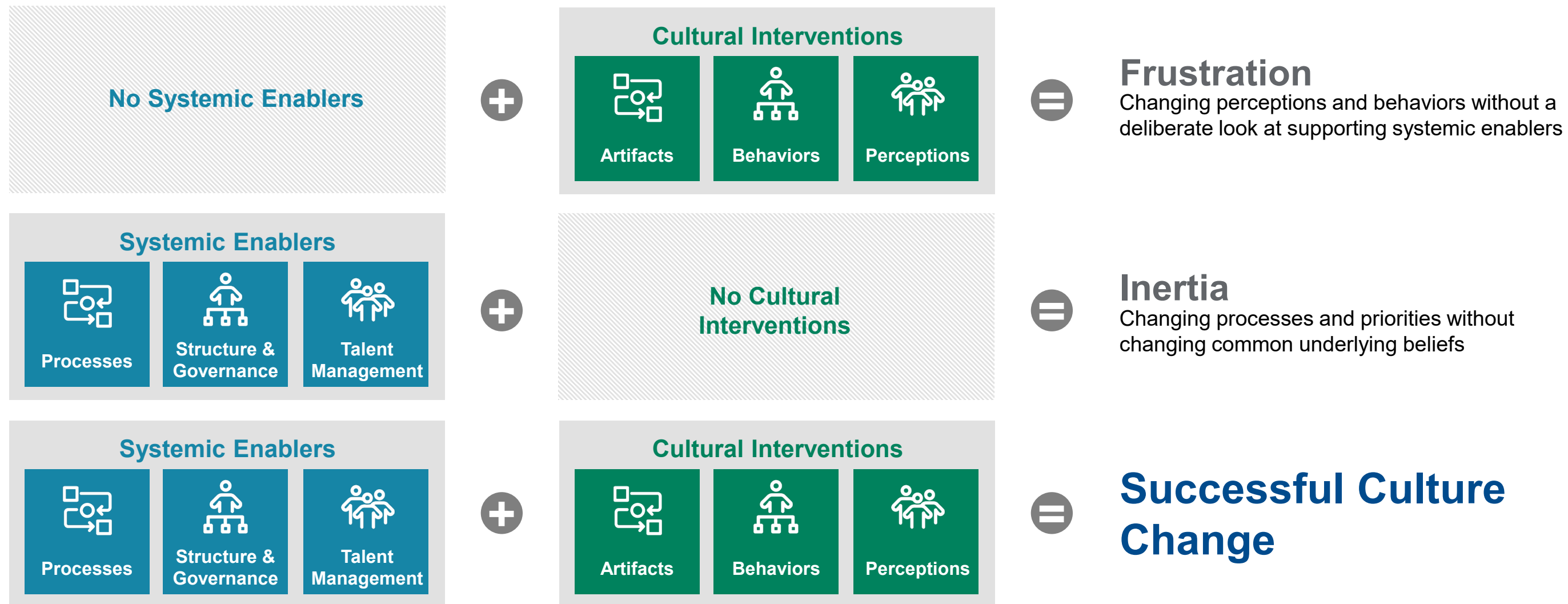
Innovation Culture

To change culture, focus on behaviors



**A culture of innovation
is one in which the
behaviors that drive
innovation success
come naturally**

Structural and cultural interventions must be combined for innovation to thrive



Inclusion & Psychological Safety are foundational to an Innovation Culture

A culture of ...



enables



enables



Example behaviors

- Ask for feedback and help
- Ask twice as much as you tell
- Express gratitude and appreciation

- Ask “what if”...?” and set aside preconceived constraints about what is possible
- Respond to new ideas with “yes, and...” vs “yes, but...”
- Identify and challenge your own assumptions about the “right” way to do things

- Adopt a problem-solver, versus a fault-finder, mindset
- Gain deep insight into how customers choose between solutions
- Design experiments to learn more about key assumptions



Inclusive
Leadership
Disciplines



Stages of
Psychological
Safety



Common
Innovation
Behaviors



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Thank You

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EXPERTISE & BEST PRACTICES

323 Future Vision of Automation

INDUSTRY SOLUTIONS

- 413 Chemical & Refining Industry
- 307 Collaboration Wall
- 405 Energy Industry
- 404 Energy Transition Industry
- 301 Life Sciences Industry
- 412 Metals & Mining Industry
- 313 Power Industry
- 305 Capital Projects

MEASUREMENT INSTRUMENTATION

- 548 Engineered Solutions
- 526 Flexim Non-Intrusive Ultrasonic Flow
- 451 Lifecycle Services for Measurement Instrumentation
- 427 Micro Motion Coriolis Flow
- 457 Non-Intrusive Measurement Instrumentation
- 449 Rosemount Combustion Analysis
- 434 Rosemount Corrosion & Erosion
- 435 Rosemount DP Flow
- 456 Rosemount DP Level
- 351 Rosemount Flame & Gas Detection
- 448 Rosemount Gas Analysis
- 357 Rosemount Level
- 349 Rosemount Liquid Analysis
- 439 Rosemount Magnetic Flow
- 339 Rosemount Pressure
- 438 Rosemount Temperature
- 534 Rosemount Ultrasonic Flow
- 538 Rosemount Vortex Flow
- 532 Roxar Flow Metering
- 335 Wireless & Connectivity Solutions

ASSET OPTIMIZATION

- 332 AspenTech Industrial Data Fabric
- 238 Simulation

ASSET PERFORMANCE MANAGEMENT

- 139 AMS Reliability Solutions
- 139 AspenTech Asset Performance Management

CONTROL & SAFETY SYSTEMS

- 227 Control & Optimize
- 228 Cybersecurity
- 334 DeltaV Artificial Intelligence
- 221 DeltaV Batch
- 348 DeltaV Data Integration
- 326 DeltaV Edge Environment
- 350 DeltaV Ethernet-APL Solutions
- 223 DeltaV Integrated Enterprise Engineering
- 220 DeltaV Modernization
- 338 DeltaV Safety Instrumented Systems
- 322 DeltaV Software Defined Control
- 251 DeltaV Virtualization
- 250 Energy and Transportation Solutions
- 229 Guardian Software & Solutions
- 354 SCADA Systems

OPERATIONS MANAGEMENT SOFTWARE

- 239 DeltaV AgileOps
- 247 DeltaV Live
- 249 DeltaV Mobile
- 248 DeltaV Real-Time Scheduling

VALVES, ACTUATORS & REGULATORS

- 209 Actuators
- 101 Fisher Valves and Instruments
- 201 Valve Services
- 300 Regulators and Relief Valves

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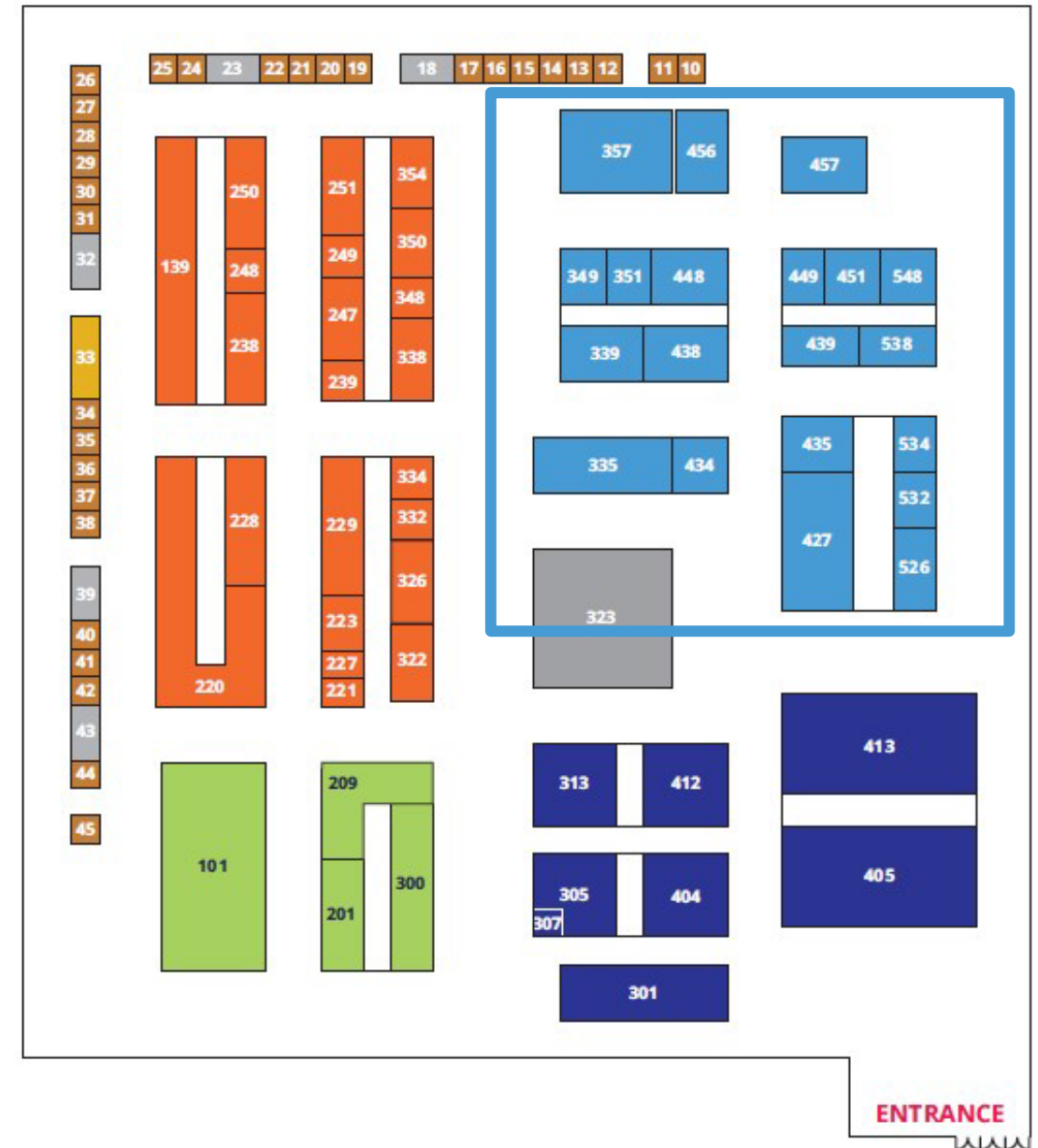
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