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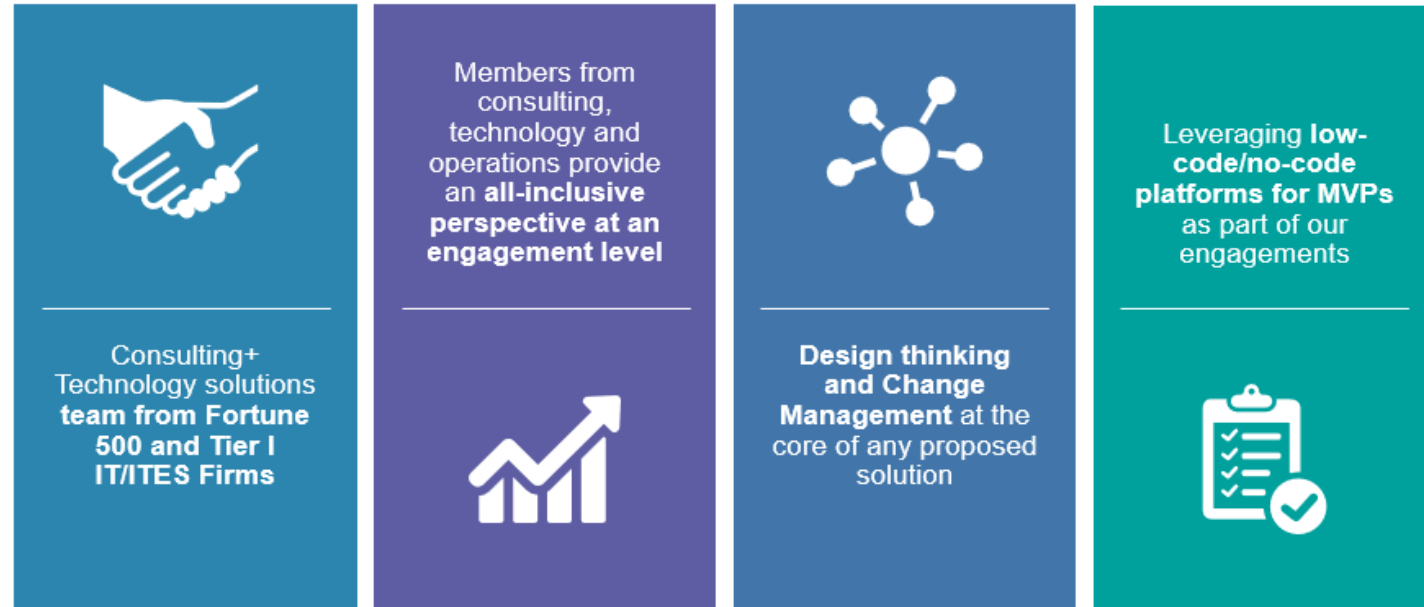
# Strategic Thinking in the VUCA Environment

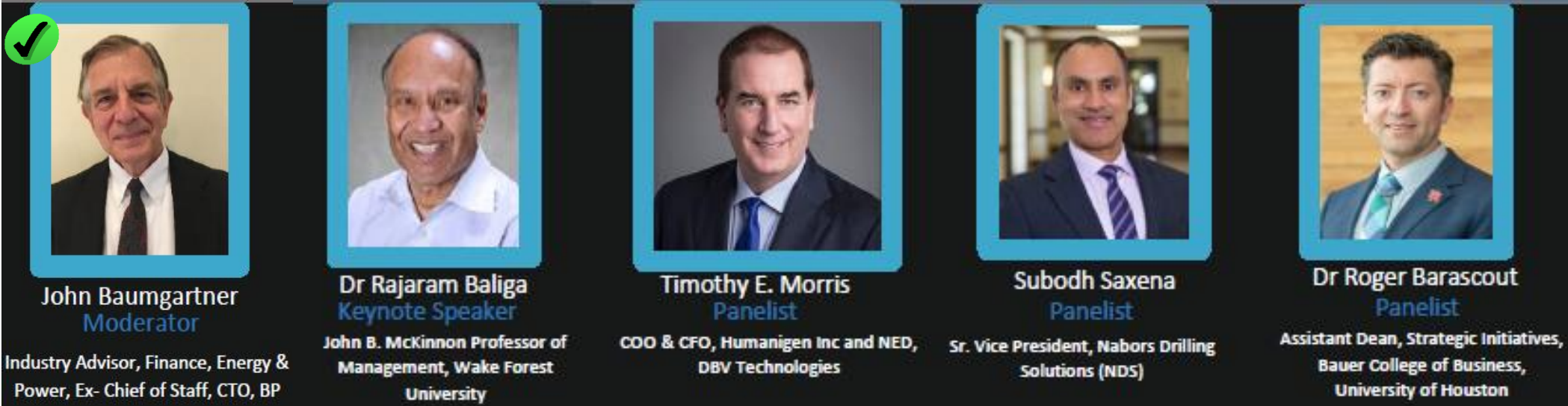
## Strategic intent to create industry value






Performatica provides professional & technology consulting services, leadership development, and opportunities to participate in emerging industries that impact and emphasize Environment, Social, and Governance (ESG) values.

### *Key focus areas -*

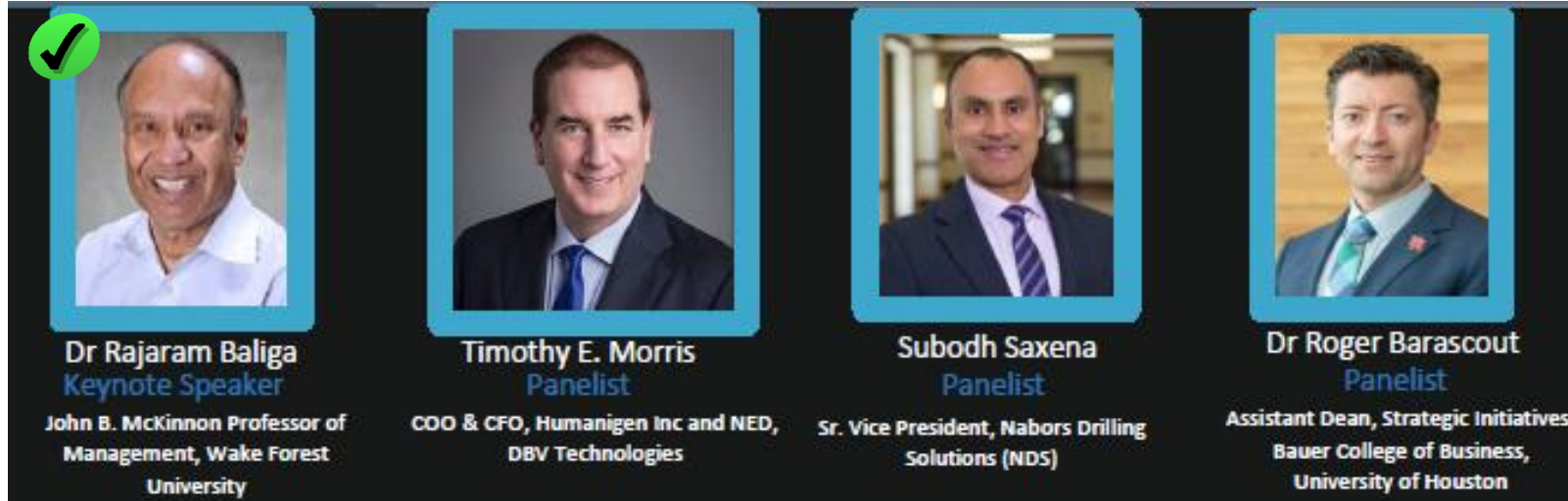
- Develop ventures that transform key industries through design thinking, domain expert networks, & digital innovation
- Provide methods and frameworks for business performance, transformation, & program management in a distributed virtual environment
- Develop & demonstrate domain solutions by prototyping using digital transformation tools & process automation





 <b>John Baumgartner</b> Moderator Industry Advisor, Finance, Energy & Power, Ex- Chief of Staff, CTO, BP	 <b>Dr Rajaram Baliga</b> Keynote Speaker John B. McKinnon Professor of Management, Wake Forest University	 <b>Timothy E. Morris</b> Panelist COO & CFO, Humanigen Inc and NED, DBV Technologies	 <b>Subodh Saxena</b> Panelist Sr. Vice President, Nabors Drilling Solutions (NDS)	 <b>Dr Roger Barascout</b> Panelist Assistant Dean, Strategic Initiatives, Bauer College of Business, University of Houston
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# Strategic Thinking: Rethinking Business as Usual



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B.R. Baliga

Professor Emeritus, School of Business, Wake Forest  
University

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# Quotes

- Life can only be understood backwards; but it must be lived forward.--Kierkegaard
- You can't connect the dots looking forward; you can only connect them looking backwards.-- Steve Jobs

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# The Apple Store

- In his new book 'Make to Know,' ArtCenter College of Design President Lorne Buchman reveals **how Apple's iconic retail store design owes less to the visionary genius of Steve Jobs than to a collaborative process of iteration, experimentation, and improvisation.**

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# Strategy Objectives

- Create value for the customer/client
- Capture the bulk of the value created (profitability)



# Sagas

- Kodak-Fuji-Sony
- HP
- Nokia-Apple
- Nokia—the second coming; Android vs. Symbian vs. Mobile Windows 8
- Fuji
- Nokia—*the* brand for HMD Global Oy

# VUCA

## ■ Volatility

- **Change is frequent and unpredictable**
  - Energy prices

## ■ Uncertainty

- **Lack of information/knowledge regarding what will happen, the range of events that could materialize, and their potential impact.**
  - Future of Afghanistan, post Taliban takeover
  - Xi Jinping, Taiwan and South China Sea

## ■ Complexity

- **Generated by interconnections, often convoluted, across different elements of a system.** That creates an emergent whole which behaves differently from the elements that constitute the system
  - Covid and Supply Chains

## ■ Ambiguity

- **Lack of knowledge regarding the basic rules of the game and cause-effect relationships**
  - U.K.-Post Brexit; Saudi Arabia under MBS

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# Implications of VUCA (1)

- From Known-Knowns to Unknown-Unknowns—Donald Rumsfeld
- Strategic decision makers have to cope with complex interdependencies, non-linearities and messy problems
- Need for a granular, nuanced understanding of the environment /context in which the firm operates
  - Need to reflect on broader contextual developments from a systemic perspective
- Rethink the familiar---question assumptions and directionality

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# Implications of VUCA (2)

- Paradigm shifting inflection points in many industries
  - From Broadcasting to narrowcasting/streaming
  - From Bricks and Mortar to Online in Retail and Education
- Hypercompetition—intense, dynamic competition
  - Accelerating rate of market and technology change leading to declining industry and product life cycles
  - Technology shifts and the Rise of Function Based Competition
  - Rapid erosion of sustainable Competitive Advantage and ability to capture value
- Premium on creating Transient Competitive and Viability Advantage through innovation
- Think in terms of opportunities created by VUCA rather than focusing primarily on threats

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# Risk

- Events subject to a known or knowable probability distributions; managers can accurately ascertain the odds of certain events occurring though the timing and outcome of any specific event is unknown
  - Teenager deaths from speeding
- Understanding and Managing Risk is an important focus in Strategic Management
  - JIT
  - Kemira

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# Levels of Risk

- Level 1: Clear enough Future
  - Level 2: Comprehensive Discrete Alternatives
  - Level 3: Range of Alternatives
  - Radical Uncertainty
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- Over a period of time sufficient information may become available to move from Level 3 to Level 1 but this is becoming more and more challenging In VUCA

# Radical Uncertainty

- ❑ Mystery rather than a puzzle
- ❑ No adequate basis for formulating probabilities
- ❑ Nonlinearity makes forecasting difficult
- ❑ World of uncertain futures and unpredictable consequences
- ❑ No right answer either before or after decisions
- ❑ Strategic options are inherently underspecified; deciding which information is relevant to a decision is a matter of judgment
- ❑ **Black swan event is not a low probability event, it is an unimaginable event: Fukushima and its consequences**



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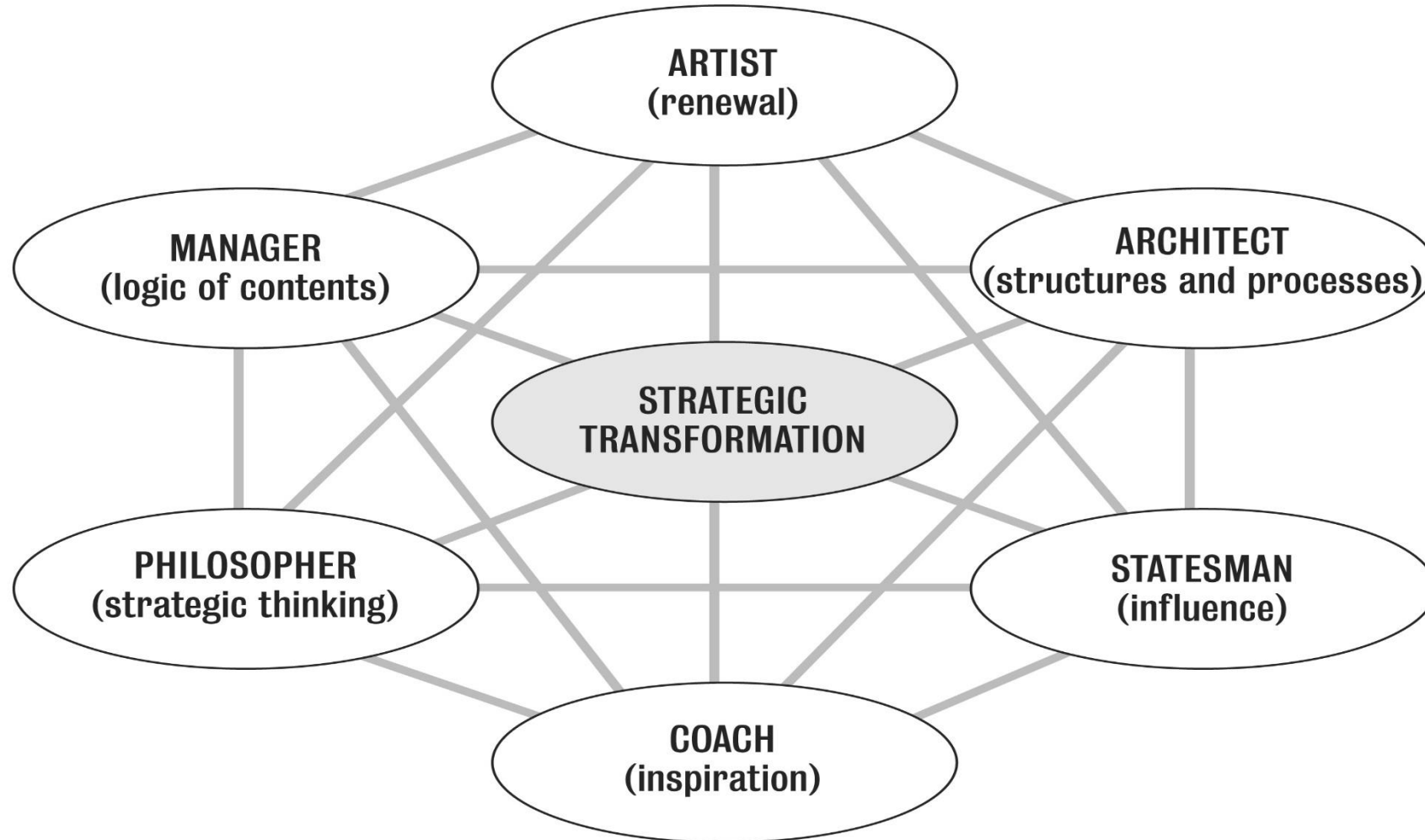
# Treating Radical Uncertainty as Risk

- Failure to accept that precise knowledge of the future is simply not available
- Airbus 380 and Boeing 787 Sagas
- Believing that attaching a number to their judgment gives it objectivity and scientific precision

# Fundamental Challenge in Dealing with Radical Uncertainty

- **Comprehend ‘What is going on here?’**
  - Create a **NARRATIVE** to explain ‘What is going on here?’
    - **Active collaboration** of diverse participants is key to creating a ‘good’ narrative
    - Iterative and messy process
  - Launch **probes** based on narrative to test validity
  - Delay commitment of resources till the last possible moment
  - **China-Taiwan Issues—Impact on US current and future business investment**

# ***CREATING FUTURE: SIX FACES OF STRATEGISTS***



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# Strategic Planning

- Planning is feasible when the context in which the firm operates is reasonably stable over time, independent of actions and beliefs of players, and processes are understood
  - Most conventional strategy formulations tools are applicable to this world
  - Most finance tools also assume linearity and stationarity
  - Optimality is a myth in real life

# Strategic Thinking

- In a VUCA world decision-makers need to shift to Strategic Thinking as it is difficult if not impossible to plan given the internal and external dynamics involved
- Think in terms of narratives rather than probabilities
  - **Premium on directionality** over precision recognizing limited information and knowledge
  - Workable solutions rather than optimal ones
  - Constantly Open to new information **and letting the strategy emerge**

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# Climate Change and Framatome

- Kyoto Protocol
- Paris Accords
- G-20 Joint Communiqué on Climate Change
  - **Should Framatome Invest Aggressively in Nuclear Power Plants?**

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# Indian Government Privatization Agenda

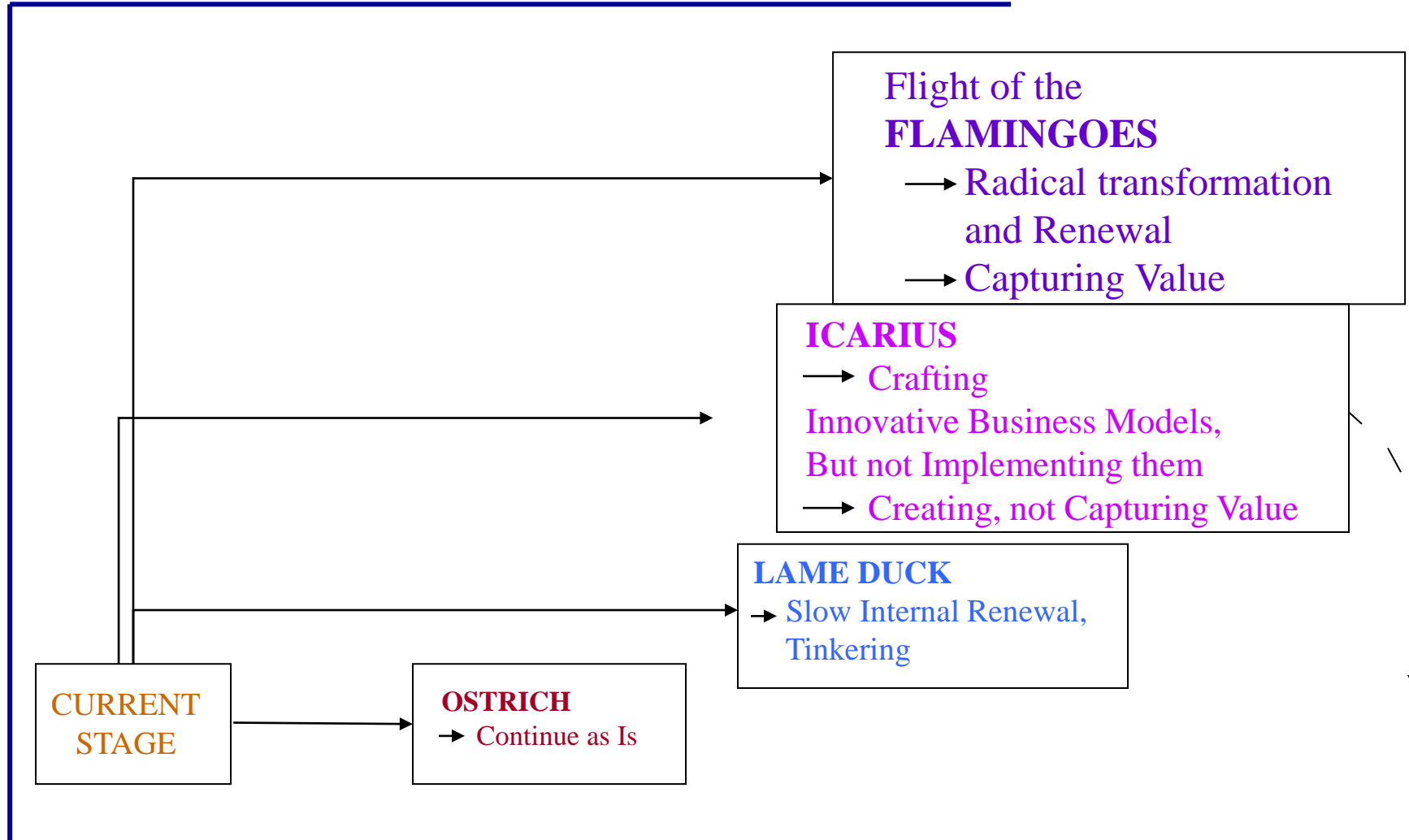
- **Tata Sons: Should we bid for Air India?**



# STRATEGIC THINKING IS *SEEING*...

- ***FROM ABOVE*** – Big Picture--Firm in its Evolving Context: **Forest and Trees**
  - *For multi-business unit firm see the overall portfolio of businesses*
- ***AHEAD*** – **Assess** the validity of the firm's strategy/Business Model for the near and medium terms
- ***THE HISTORY*** – Understanding firm's experience, capabilities and knowledge
- ***INTO*** – Understanding Pros and Cons of Operating Logic
- ***BESIDE*** – Gaining Insight from diverse organizations,, industries and institutions using metaphors and analogies
- ***BEYOND***: What's Next?

# Seeing Beyond: Business Angel's View on Future...



# What's Next? (1)

- **Detect Weak Signals--AGI**

- **Interpret**

- Blip or Trend?

- **Develop a POV**

- **Challenge POV**

- Gentlemen, I take it we are all in complete agreement on the decision here. Then, I propose we postpone further discussion of this matter until the next meeting to give ourselves time to develop disagreement, and perhaps gain some understanding what the decision is all about—Alfred Sloan, GM

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# What's Next? (2)

- **Arrive** at a specific POV
  - **Prioritize Key Strategic Thrusts**
    - What do we need to do **NOW** to increase probability of success in the future even as we seek to ensure that we are successful in the present and near future?

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# Issues that Big Pharma (GSK) should have been thinking about a decade ago

- Gene Therapy
- mRNA platforms for vaccine development
- Immunotherapy
- AI
- Public Policy with respect to Drug Approvals and Pricing

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# How to Survive and Thrive in VUCA (1)

- Shift from deliberate strategic planning and execution to *ad hoc* and emergent strategies
- Generate Scenarios—**driven by different drivers**
  - Not Forecasting but a comprehensive framework for setting out issues for debate and creating a POV
  - **Forecasts are about probabilities; narratives are about possibilities**
- Employ *Design Thinking* where “interpreters” are used to understand changing customer/client needs and meanings
- Shift from internally focused strategy crafting to Open Strategizing

# How to Survive and Thrive in VUCA (2)

- **Ensure Organizational Agility**

- Sensitive to fleeting opportunities and being nimble at seizing them

- **Ensure Absorption Capability/Robustness**

- **Develop:** Structural characteristics such as size, power to weather change
- Defensive and Offensive purposes—focus on the offensive

- **Develop Agile absorption**

- Agility and absorption as complements with the balance shifting based on the circumstances



# Achieving Agile Absorption

- Build Absorption without hurting agility
  - Low fixed costs enable the firm to weather diverse threats without impeding its ability to seize game changing opportunities
- Manage Trade Offs
  - Multiple small units enable probing and sensing opportunities while creating mechanisms to link them up to increase absorptive capacity
- Create Ambidexterity
  - Foster exploration and exploitation
    - Structural
      - PARC issues
    - Cultural

# Types of Organizational Agility

- Strategic
  - Ability to Spot and exploit game changing opportunities; Changing the Concept of Business
    - Commitment-Flexibility Dilemma
- Operational
  - Find and seize opportunities to improve processes and operations
- Portfolio
  - Change the composition of the portfolio rapidly
    - Microsoft LinkedIn quitting China
- Architectural/Technology
  - Ability to leverage new technologies or technology architecture
- Innovation Agility
  - Ability to translate inventions, discoveries into innovations rapidly

# How to Survive and Thrive in VUCA (3)

- **Prune** resources, capabilities and core competences that were relevant in the past but irrelevant to the future
- **Build** a pool of dynamic capabilities for future deployment
  - Strategic Alliances, Partnerships, Ecosystems
- **Generate** multiple options by **adopting resilient and robust approaches**
- Maintain **Fluidity**: a broad portfolio of resources and capabilities to permit timely deployment toward a particular option

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# How to Survive and Thrive in VUCA (4)

- **Openness** over relentless execution
  - Openness toward **participating in or playing a nodal role in alliances, networks and ecosystems**
- **Learn from outliers**
- **Embrace Open Innovation**

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# How to Survive and Thrive in VUCA (5)— Competitive and Viability Advantages

- **Competitive advantage**
  - Directed at creating and sustaining more economic value than competitors
- **Viability advantage:** Ensuring the long term survival of *the organization*
- **Finding an optimal balance between competitive advantage and viability is one of the most demanding challenges confronting strategic leaders in VUCA environments**

# Competitive and Viability Advantages (continued)

- Leaders should be willing to sacrifice competitive advantage if this is necessary to obtain viability advantage
  - FUJI vs. Kodak redux
- It is ironic that in some cases weak competitive advantage can boost viability as illustrated by the government bailout of GM, Chrysler, AIG and Merrill Lynch in the midst of the 2008 financial crisis.

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# The Ideal-Becoming Antifragile (Naseem Taleb)

Anti-fragility, positioning oneself to benefit from radical uncertainty and the unknowable future

Google Prior to Alphabet

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# Ambidexterity

- Managing this dual challenge of exploration vs. exploitation effectively is key to long-term organizational viability
- Structural Ambidexterity
  - PARC
- Sequential Ambidexterity
- Cultural Ambidexterity

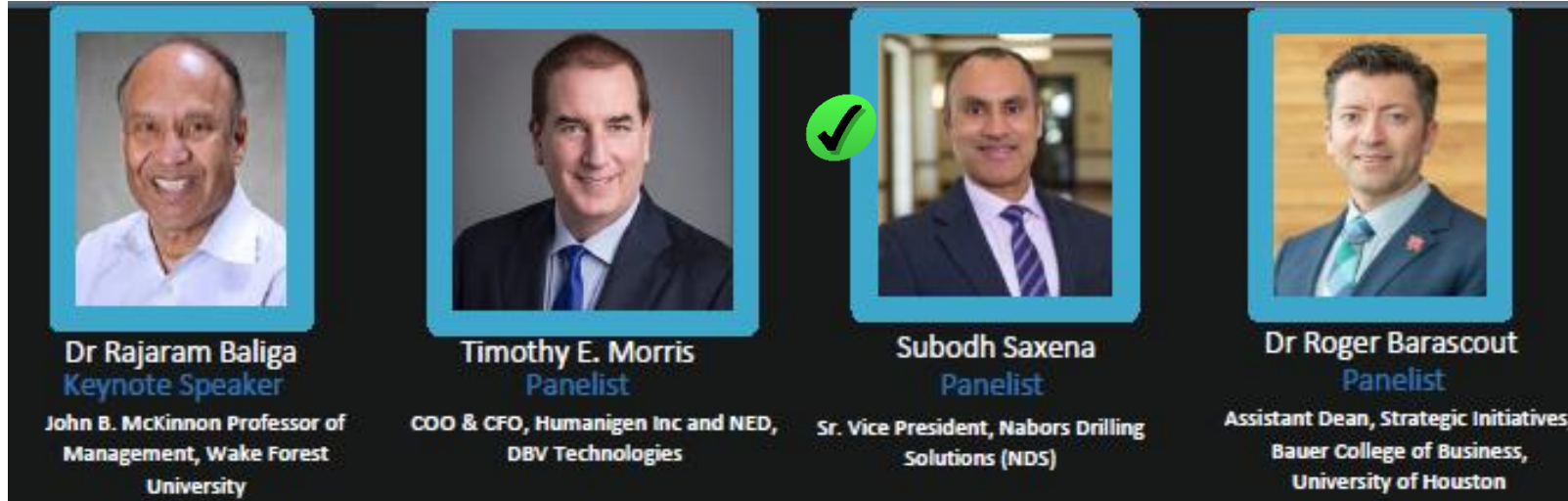


# How to be a Strategic Thinker

- Be intensely **curious**
- Become Highly Sensitive to Signals from the environment/ context
- Develop a broad perspective on issues, events, trends
- Be Critically self reflective—symptoms vs. root causes
- Engage in dialog, discussion and debate
  - Actively seek our facts that disconfirm long-standing/strongly held beliefs, assumptions and opinions I
- Take Advantage of Informal Learning Opportunities
  - Chatting on flights, with taxi drivers, waiters etc.
- Develop and refine thinking in terms of metaphors and analogs
  - Arvind Eye Hospitals and McDonalds
- Refine intuition recognizing that intuition and analysis are complementary
- Refine imagination and creativity to create new frames and patterns within these
- Cultivate Ambidexterity

# Five Pivotal Questions—Schoemaker & Krupp

- Do you see and understand the changes that are taking place in your industry and the broader environment?
  - Ask discerning questions, explore ideas and opinions that are outside the mainstream
    - Personalized medicine, IOT, cloud
  - Do you explore Future Scenarios?
  - Develop different perspectives on how the environment may change
    - Non-traditional function based competitors
- Do you seek out diverse views and explore problems from multiple perspectives?
  - What can you do to kill yourself? Hegelian dialectics, Foster debate
- Do you employ multiple lenses and delve deep to see patterns?
- Do you generate multiple options when making strategic decision?
- Do you encourage experimentation and failing fast?



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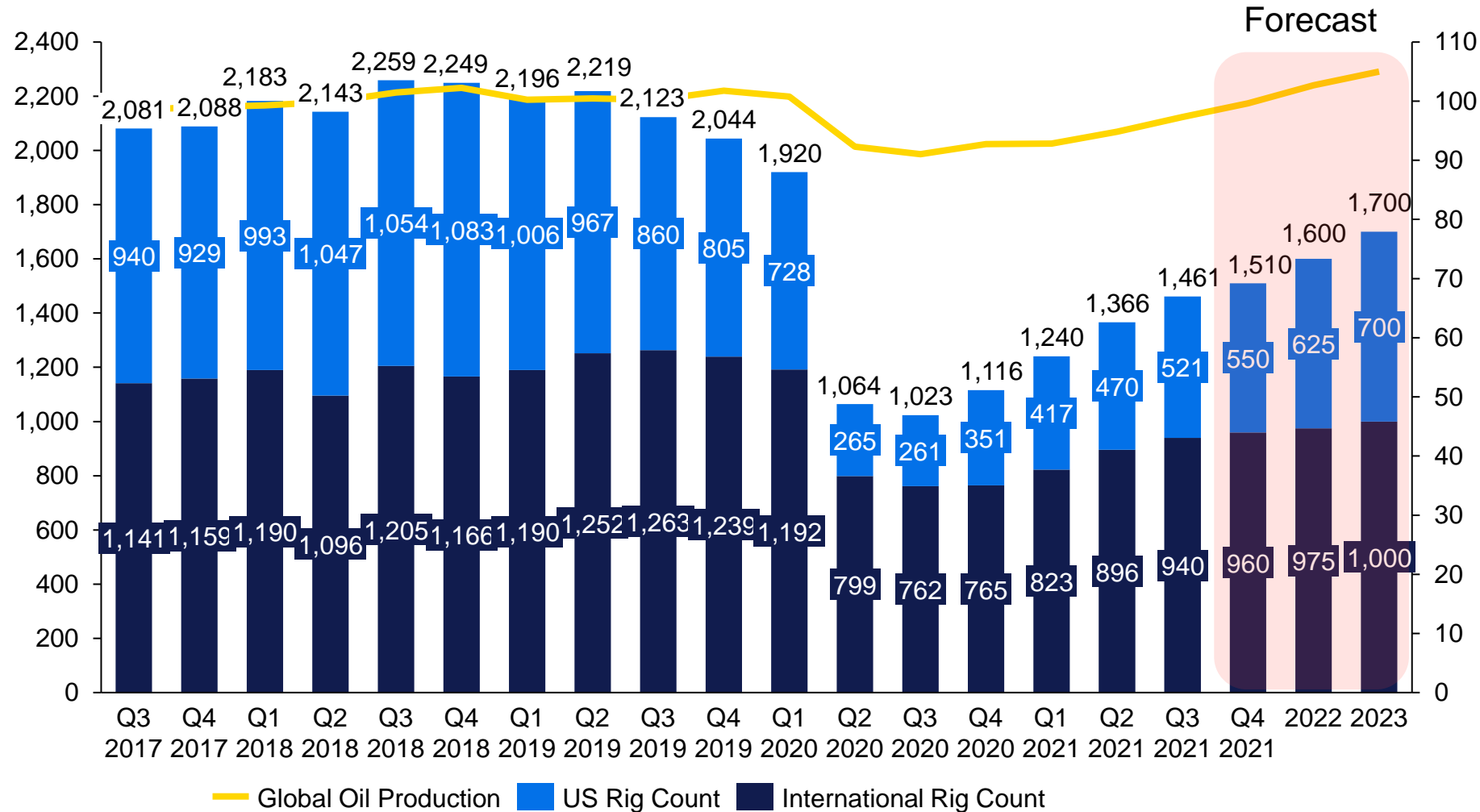
Subodh Saxena

SVP, Nabors Industries

October 21, 2021



# Recent example of VUCA in oil & gas



- Pandemic caused demand destruction, no early warning signals
- OPEC+ constraining supplies
- Financial discipline for US producers overrules production growth
- Geopolitical tensions add complexity
- Technology increasing productivity per well
- Transition to renewable energy mandated by investors and society

# VUCA

## WHAT IT MEANS FOR NABORS

### **Volatile**

Rig count historically has responded to changing conditions

### **Uncertain**

Many analyst and company forecasts that greatly differ

### **Complex**

Increased need for innovative solutions with varying commercial structures

### **Ambiguous**

Uncertainty around future energy sources and role in the consumer market

# VUCA

## HOW WE RESPOND

### **Volatility**

Broaden total addressable market (TAM) through development of digital and automation platforms that are equipment agnostic. Strengthen global footprint.

### **Uncertainty**

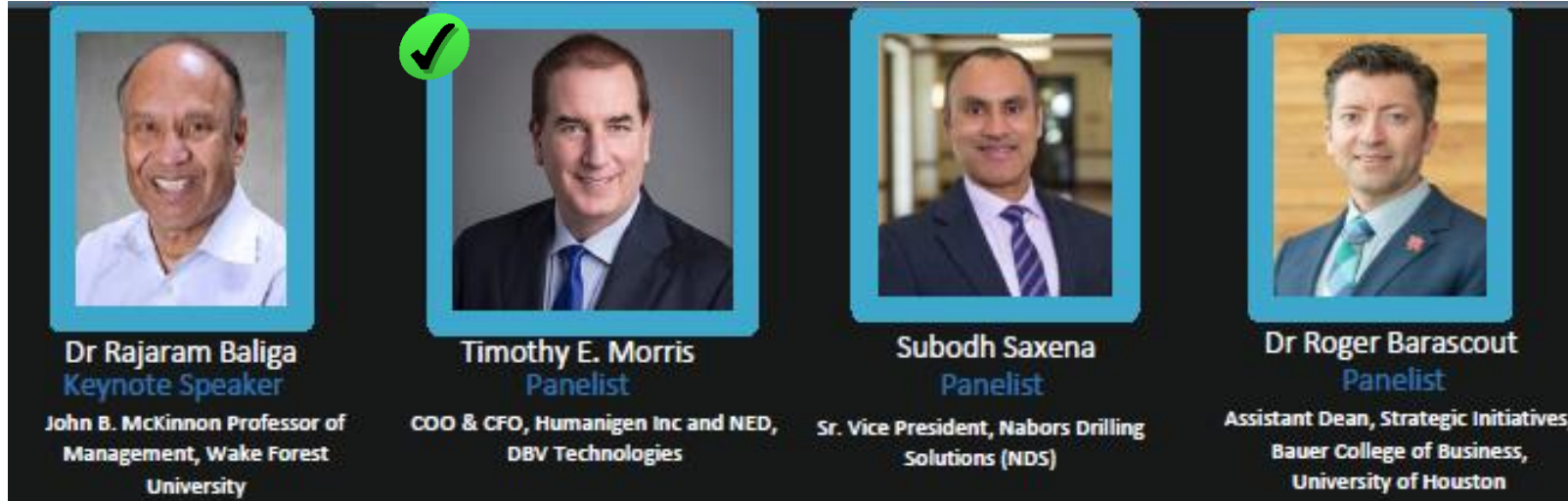
Qualitative market research conducted with customers of all sizes in all US basins and across the globe.

### **Complexity**

Asset-light, layered solutions enable flexible, yet profitable, commercial structures that result in win-win outcomes.

### **Ambiguity**

Proactive innovation strategy including deployment of existing solutions for the energy transition and R&D on new solutions.



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# Strategic Thinking in the Pharmaceutical and Biotech Industry

TIMOTHY E. MORRIS  
COO/CFO HUMANIGEN, INC.  
NED DBV TECHNOLOGIES



# Seize the Day/Rue the Day

## The Seize

- HGEN developing lenzilumab (anti-GM-CSF) mAb for respiratory disease
- Early data from China suggest GM-CSF is excellent target for COVID
- HGEN gets compassionate use approval from FDA-Mayo Clinic successful treats patients
- 520 patient Phase 3 study completed showing improvement in survival
- HGEN pursuing Emergency Use Authorization UK/EU/USA in COVID

## The Rue

- DBVT developing epicutaneous patch for peanut allergy in children
- Company receives rejection from FDA August 2019 for approval stating manufacturing and adhesion concerns (but the efficacy is good)
- FDA feedback Jan 2020 suggests no new efficacy trial needed
- DBVT submits new protocol and plans to move forward
- Still awaiting response to request for meeting and feedback for nearly 9 months, FDA is gridlocked

# VUCA

## WHAT IT MEANS FOR BIOPHARMA

### **Volatile**

Can I run a study during COVID?

Are critical raw materials available?

Can I get funding?

### **Uncertain**

What is needed for COVID trials and approval?

Where do non-COVID lifesaving therapies fit in?

### **Complex**

What Regulatory Authorities will make/influence the decision? FDA, DoD, NIH, CDC, WHO, White House, BARDA, OWS

### **Ambiguous**

Emergency Use Authorization rules and benchmarks not well defined.

Do traditional PDUFA guidelines apply?

# VUCA

## HOW WE RESPOND

### **Volatility**

HGEN-incredible opportunity to capture COVID-19 patients, to file for EUA and raise money

DBVT-difficult to respond to FDA when Agency focused on COVID, need to extend cash runway. Duck and cover.

### **Uncertainty**

HGEN-when will the pandemic end and does the market still exist for COVID therapies?

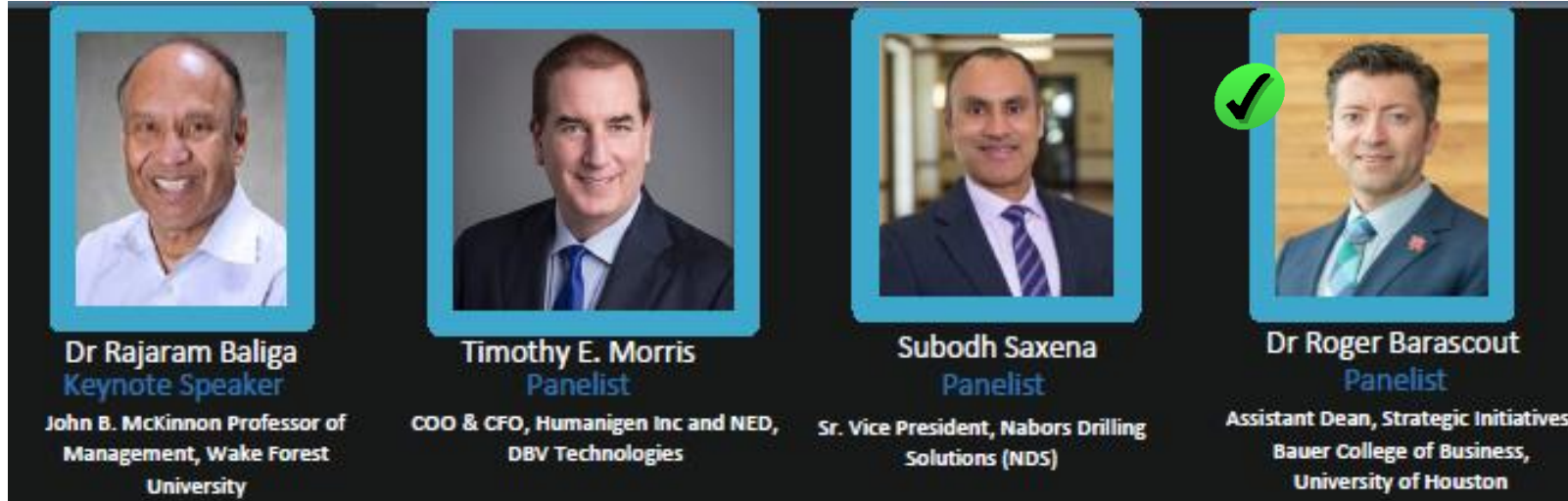
DBVT-peanut allergies still exist, but COVID exposure greater concern

### **Complexity**

Regulatory environment greatly influenced by Administration and the quest for herd immunity. Need to play to all sides.

### **Ambiguity**

Create clarity-win with data. See it from the back of the room.



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## HIGHER EDUCATION + STRATEGIC THINKING

Roger Barascout, Ed.D.  
Assistant Dean of Strategic Initiatives

# What has changed?

- Replacement of existing jobs and creation of new ones that did not exist before
- New professions are being created, such as app developer, social media engineer, digital advertiser, cyber-security analyst, AI designer, and even “drone operator”
- Recruit, retain and train employees who can work with increasingly sophisticated technologies
- Need to “re-skill”

# VUCA and New Opportunities

- Instruction increasingly technology-enabled and complemented
- Flexibility and adaptability
- Look ahead at the jobs of tomorrow
- The world just got smaller!



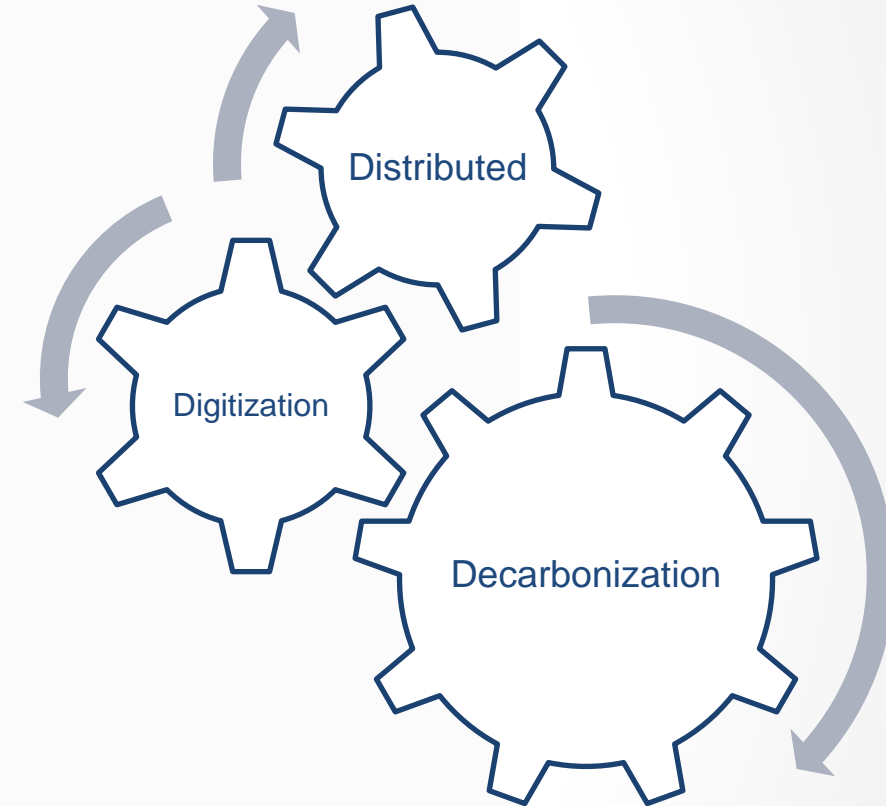


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## A Tapestry (TPESTRE) of Trends for Strategic Planning



*Reference - Gartner*



*3D (Distributed, Digitization and Decarbonization) is transforming major industries*



# Thank you



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