HOW TO GET MORE INNOVATION IN YOUR PORTFOLIO

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Introduction

Frost & Sullivan recently invited select companies to participate in a new and unique thought leadership forum — the Virtual Think Tank. The executives contributing opinions and insights worked in a variety of name-brand companies:

- **Gerald Powell**
  Global Leader - Create Product Success
  Dow AgroSciences
- **Lewis Manring**
  Vice President, Technology
  DuPont
- **David Matheson**
  President & CEO
  SmartOrg, Inc.
- **Todd Abraham**
  Senior Vice President
  Research & Development
  Mondelez International
- **Tommy Goodwin**
  Senior Manager
  Strategy & Public Affairs
  AARP

Research shows that 65 percent of senior executives admitted they were only "somewhat," "a little," or "not at all" confident about the decisions they make to stimulate innovation. In spite of best efforts to get more innovative projects, these companies often fall short and favor incremental advances with more certainty of increasing returns on investments, but less certainty of breakthrough ROI. How, then, can they get more innovation in their portfolios?

This interactive, virtual session provided a platform for identifying insights central to the role of executives working on innovation and new product development. Because of the platform nature of innovation tools, insights are relevant for the spectrum of markets and industries that are engaged in innovation activities.

Among the themes discussed were the following:

- Do we really need more innovation in our portfolios?
- What process structures or habits developed while producing incremental advances get in the way of innovation?
- How do you provide rigorous thinking about strategic and economic issues for innovation, in situations of high uncertainty or ambiguity, without crushing innovation?

Innovation projects require a learning perspective and a high level of support, and in many cases they are also fraught with uncertainty and ambiguity. Forces within companies such as short-term pressure, project management, and the need for predictability make it difficult for innovation to thrive.

To explore these challenges and uncover ways to overcome them, Frost & Sullivan invited executives to participate in a Virtual Think Tank session. On a daily basis, these executives manage innovation portfolios and engage in strategic planning activities with the goal of driving new product development and business growth.

Ample Opportunity Exists

The Virtual Think Tank participants discussed and debated myths and circumstances surrounding initiatives to drive more innovation into the portfolio.

While executives bemoan the challenges associated with getting more innovation into their portfolios, it's clear that there are ample opportunities to achieve innovative products.

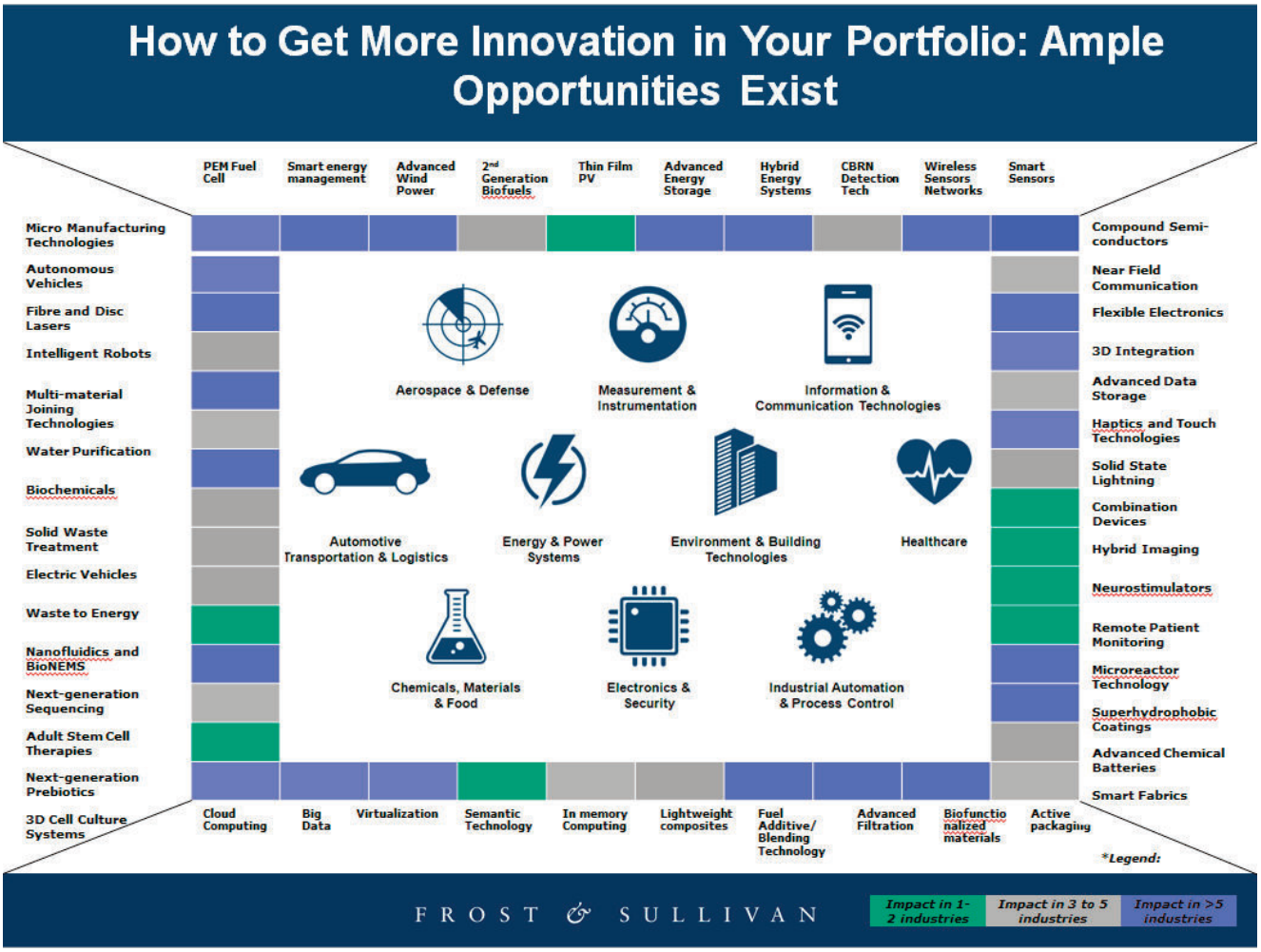
This is true from the perspective of emerging technology trends and the convergence of technologies, market applications, and industries. As shown in Figure 1, a broad range of technologies are emerging with potential in multiple industries. For the technologies areas selected among the top 50 technologies for the future — part of Frost & Sullivan's Technical Insights TechVision project — each area connects with market applications in an average of four industries. Technologies are also being driven and pulled into market applications by megatrends — "health and wellness," "megacities and regions," and "innovating to zero" are among them.

Confined by the Comfort Zone

Innovation takes companies out of their comfort zones, and it requires that they move forward from satisfying current customer needs to evaluating and satisfying unmet needs and, sometimes, needs that are not as yet obvious. The metrics and approaches that companies tend to use are great for implementing incremental, safe zone projects, but these same metrics and approaches can get in the way of successful innovation that leads to products launched in medium- and long-term horizons.

Given the hypothesis that there is not enough

Figure 1. Emerging technologies and industries converge.



"It's all about making choices and then actually committing and executing on those choices."

– **Gerald Powell**
Global Leader - Create Product Success
Dow AgroSciences

"The biggest problem I see in organizations is the inability to make choices. By not making choices, we place so many bets that none of them can really advance. So if you have three great choices, and you're going to kill them by trying to go forward with all of them — that's part of the problem. It's not trivial to decide which project should go forward."

– **Lewis Manring**
Vice President, Technology
DuPont

"I think the notion that every innovation has to be successful is going to limit how innovative those things can be. You can't hit 100% on these things or else you are not pushing the boundaries enough. If that's your metric, you're going to drive the organization toward very safe short-term innovations."

– **Todd Abraham**
Senior Vice President, Research & Development
Mondelez International

"It can be a challenge getting people to understand that when a great, innovative project is being brought to its natural conclusion, but that great project doesn't go to market, is not a bad thing"

– **Tommy Goodwin**
Senior Manager, Strategy & Public Affair
AARP

"It seems to me that innovation, in a way, is the search for the reasonable upside, and that's basically a learning process…it seems that putting learning at the center of a process around ambiguity and uncertainty is really at the heart of the matter."

– **David Matheson**
President & CEO
SmartOrg, Inc.

innovation, and that certain metrics and processes get in the way of innovation, panel participants were invited to discuss whether executives needed more innovation in their portfolios.

"The notion that there's a growth zone that requires us to do things differently from what we've been doing, and that might require us to be innovative around our customer, technology, market, and strategic perspectives supports the notion that we need more innovation," said Todd Abraham. "The safe zone isn't typically big enough for us to grow at the level of expansion that our marketplace expects, that the stock market expects, that our customers expect, and that our employees expect," he said.

Gerald Powell offered an example from the food and fiber industry where innovation, through the centuries, has raised standards of living and quality of life. "Most of the companies in this space realize that we need to double food production between now and the middle of this century," he said. "The only way we're going to continue to meet demand is to have a high amount of innovation in our industry."

David Matheson said he felt that a certain element of the desire for innovation was inauthentic. "People will say, for example, my New Year's resolution is to lose a certain amount of weight and get more exercise, and they really don't do what it takes to achieve it," he said. "And so, while it's really essential to get more innovation, I wonder whether people really want it and are willing to go the distance to make it happen. At some level it does mean doing something uncomfortable, and people don't like that. Do organizations really mean it in the sense that they are willing to take action? If the CEO says we need more innovation, that's a nice sentiment. But do they mean it in the sense that they're lighting the fire that's going to drive that forward or not? And from what I've seen, that's pretty uneven across companies."

Enterprises appear to want the greater value that innovation creates, but staying with an innovation program long enough to see it bear fruit can be a challenge that overwhelms even the most efficient of organizations.

"When you think about what you're really asking for around the commitment to innovation, you're talking about protecting budget and resources, having greater thresholds for risk taking, and having real organizational patience," said Tommy Goodwin.

When people in enterprises think about wanting to be innovative, they frequently think about it in the present. Successful innovation projects need to be sustained over a number of quarters and potentially for years, and it can be difficult to envision the difficulties associated with staying the course, especially in times of high uncertainty within multiple environments — including political, economic, social, technological, and legal settings. Implementing strategy is a combination of how much you spend and what you spend it on, said Gerald Powell. "To say that you want growth and then not allocate the resources to fully fund it, that's a great paradox and a challenge," he said.

Innovating around how you innovate can be critically important. "Allocation of resources is a critical issue. How you leverage those resources, how you use those resources, and how you decide where to focus those resources are elements of the innovation process that allow you to be more effective

than your competitors," said Todd Abraham.

Lewis Manring agreed: "I would stand confident that we have plenty of innovation opportunities, but that's different than being effective at innovating."

Another difficult path to maneuver for inventors and innovation executives is the choice between selecting innovation projects that appear to be most in-line with the company's strategic objectives and core competencies, and passionately pursuing those projects in a committed way that takes them to their end points, and on the other hand, being careful to not select a path that is too narrow and safe that limits innovation potential.

David Matheson worked at Xerox PARC, which famously invented computer printing, computer networking, and the computer workstation. He interviewed a colleague, George Pake, who was the head of that department at Xerox PARC at the time.

Pake had a choice — fund printing, networking, or the personal computer? He funded printing, which was most strategically aligned with Xerox's businesses. "That was a real choice, but was it one where somebody made a choice that was against innovation?" asked David Matheson.

Todd Abraham said Pake did not, in his opinion, make a choice against innovation. "I think he prioritized which innovations were most important to the long-term success of the company. That's not saying you're against innovation. I mean, I'm against innovating in car tires. We don't make car tires. I don't think that means we don't want to innovate. I think it means we want to be focused on the businesses that are most in line with where we want to be in the long term."

"I was actually going to say something similar that would drive me to have incredible respect for this person," said Lewis Manring. "The biggest problem I see in organizations is the inability to make choices. By not making choices, we place so many bets that none of them can really advance. So if you have three great choices, and you're going to kill them by trying to go forward with all of them — that's part of the problem. It's not trivial to decide which project should go forward. After doing this for 30 years, I have probably made more mistakes in my career by trying to do too many things than I have done by trying to do too few."

"It's all about making choices and then actually committing and executing on those choices," said Gerald Powell.

Incremental and Innovative Projects Require Contrasting Metrics

The panel was asked to explore the processes, structures, and habits generated within the comfort zone in developing incremental projects that get in the way of more long-term or medium-term and more innovative projects.

"One thing I have seen is the use of evaluation and financial metrics before they are appropriate," said David Matheson. "People try to do net present value calculations and impose it on them in such a way that it's not helpful for innovation. It raises the bar of evidence for an innovative idea before that idea can really handle it."

"I do think that the organization cannot put innovative programs side-by-side with incremental programs, because you can't compare them," said Lewis Manring. "That doesn't mean you don't want to think about the financial implications of the programs. Of course you do, or else you can't choose between the different innovative programs." With that said, if you just do short-term finances, you are always going to do the incremental work, he added.

"These numbers all have a high degree of uncertainty around them, and we crank out an NPV number like we know the inputs to the twelfth decimal point," said Todd Abraham. "You need to use much more judgment (and drive less for mathematical precision) with innovation projects. Even the most difficult innovation project has quantifiable objectives and milestones along the way. The milestone may be a "go, no-go" decision, but it's a milestone. I don't think we're at the point where we only reward people for successful innovation. We look at both what they're doing and how they're doing it, and getting to the right stopping point at times is just as

important as pushing something ahead.

"I would even go so far as to say that I am familiar with several circumstances where a person worked on something, and they guided us to the difficult decision to discontinue it, and the learning they had from that really helped them significantly in the next project they took on. I think the notion that every innovation has to be successful is going to limit how innovative those things can be. You can't hit 100% on these things or else you are not pushing the boundaries enough. If that's your metric, you're going to drive the organization toward very safe short-term innovations. And so if there's not some process for dealing with failed attempts, hopefully inexpensively and hopefully quickly, but still dealing with failed attempts, you're not going to push the boundaries enough."

The Importance of an Innovation Culture

Tommy Goodwin works in an organization with attributes that are different from others. "It can be a challenge getting people to understand that when a great, innovative project is being brought to its natural conclusion, but that great project doesn't go to market, is not a bad thing", he said.

Todd Abraham had an interesting anecdote related to the tolerance for failure in organizations: "A young engineer comes back to his boss after screwing up his first planned trial and says, 'I bet you're going to fire me, I just cost us a hundred thousand dollars.' And the manager says, 'Fire you? I just invested a hundred thousand dollars in your education.' "

Creating an environment where employees feel safe being creative and not concerned that their creative ideas will be squashed is heavily influenced by an organization's culture. "We all create culture within our own organizations, but what kind of culture are we creating?" asked Todd Abraham. "How do you manifest that culture in your actions and activities? And if you have a culture that says you can only advance by succeeding — that failure is not an option — you know you're not creating the right culture. And if you create the culture that allows failure as such, you have to find the opportunities to tell those stories. You have to find opportunities to reward those people in the appropriate way. You certainly don't want people to think they should fail so that they can be rewarded, but you want to highlight those areas where significant learning happens in the process of failing. In a small way, it can lead to a different opportunity. If you know what you can't do, it also helps you define what you can do."

Characteristics, Tools, and Processes that Drive Innovation

Given that people working on innovation projects can feel restrained by the habits, processes, and requirements of incremental projects, the panel was asked to comment on how to provide rigorous thinking about strategic and economic issues for innovation in situations of high uncertainty and ambiguity, without crushing innovation.

Instantly, Gerald Powell offered a solution. "This is an easy one to answer because we had a process about 15 years ago where every single concept and project took literally hundreds of inputs. We eventually started using Access, because the challenge got to be too big. And now the tool we're using has really been a game changer for us. Rather than spend so much time debating rather specific things such as the maturation of sales — in 10 years is it going to be $11 million or $11.1 million or $10.9 million — we really try to have a discussion about it. So I think some of the tools that are out there — we happen to use Portfolio Navigator® — really have taken a lot of the hours out of the tedious part of this and we can really spend time talking more about the product concept, how much we can sell, and getting customers involved, and we spend a whole lot less time trying to build the business case. We've taken literally months of organizational time out of

building the business case with tools that are much better.

"The tools are different in two ways. One is just the count of inputs you have to put in the tool. They are significantly fewer than what we used to enter. The other thing is that by using tools that have different risk adjustment parameters, you can end up with an answer in which the organization feels a level of confidence.

"The data we have says we've gotten much, much better at this, as a result of using this tool. I can summarize it as follows. The organization committed to deliver on something and what we actually delivered was in line with what we had planned, so we didn't end up thinking it was going to be one thing and it turned out to be something dramatically different."

David Matheson expanded on this point: "One thing I've seen at the core of this is that the tools and process for innovation are learning (as opposed to planning) oriented. The difficult issues in innovation include ambiguity and uncertainty. That is, a great idea is ambiguous in the sense that it could go in many different directions, and that possibility of going in many different directions is troublesome for a management structure. So if I'm innovative I could say, well I've got this great new technology, and I can apply it in different settings. Every time I add something, I've lost someone. What the other side hears is, 'I don't know what I'm doing, and I'm losing focus.' And the other issue is the uncertainty. It could be a big ROI, or it could be small. And, frequently, our profits are designed around predictability. It seems to me that innovation, in a way, is the search for the reasonable upside, and that's basically a learning process. So I'm not sure how to do all that, but it seems that putting learning at the center of a process around ambiguity and uncertainty is really at the heart of the matter."

A robust tool allows you to try out multiple inputs, continuously adjust inputs and expectations as you proceed, and always have a record of your work so that you can refer back to it if needed for future learning. "So you may end up with 130 different concepts for a given geography rolling up into four or five completed projects, but out of those 130 concepts, you started with 150, and then you constantly made adjustments without losing your work," said Gerald Powell. "This process lets people think out loud in a quantitative way."

In addition to being able to discuss the range of metrics surrounding projects and pressure testing the underlying assumptions, the panelists said that successful innovation projects can greatly benefit from the work of an influential project champion.

"A successful innovation project is one that's properly incubated by a leader, and not isolated, so there's enough learning and exchanges to build internal champions as the project moves forward," said Tommy Goodwin. "They are people that don't necessarily get bogged down in strictly doing NPV. Here, in my company, we get to think about things like member relevance and social change. But projects that are the true drivers of innovation need the cocktail of everything we've talked about today."

"Innovation leaders and the people they influence can have an intuitive understanding of value.

That can be very difficult to convey, but that understanding of value allows you to say, 'This is so valuable, I'm just going to do it,' " said Lewis Manring. "It's very difficult to insert that systematically in a complex organization."

David Matheson remembered a quote by Machiavelli. "He said something like this. 'A change is the most dangerous task to undertake, because the person trying to make the change faces as committed opponents all of those who benefit from the status quo, and as lukewarm supporters those who might possibly benefit from the change.' And it seems to me, that is a pretty good description of what happens with innovation."