



Driving Open Innovation

Learning from Three Cases

Jayakanth 'JK' Srinivasan

Lead Advancement Initiative
Engineering Systems Division
Massachusetts Institute of Technology
<http://lean.mit.edu>

The PROGRESS Centre
School of Innovation, Design and Engineering
Mälardalen University
<http://www.mrtc.mdh.se/progress/>

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SWEDISH FOUNDATION for
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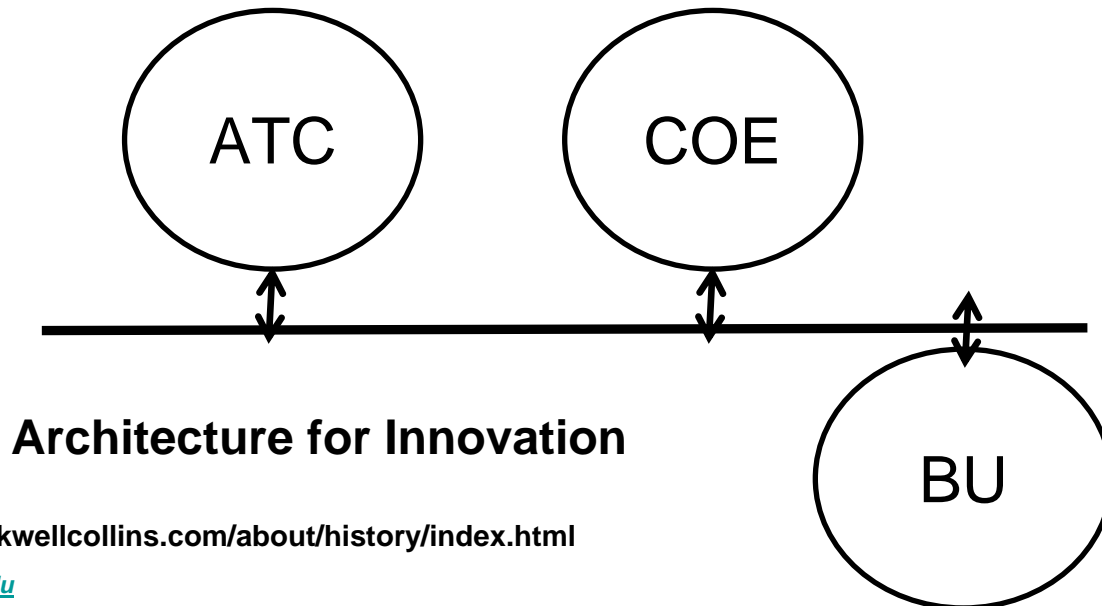
- **Open innovation in Knowledge-Intensive Firms**
- **Opening up Innovation**
 - Rockwell Collins
 - EuroTel's P-Dev Unit
 - OpenSource
- **Takeaway**

Knowledge-Intensive Firms

- We adopt Alvesson's* definition of knowledge-intensive firms –
those in which most work is said to be of an intellectual nature and where well-educated, qualified employees form the major part of the workforce
- Case Domains - Avionics, Telecommunications and Software Development

*Alvesson, M. (2000). 'Social identity and the problem of loyalty in knowledge-intensive companies'. *Journal of Management Studies*, 37: 8, 1101-1123.

Rockwell Collins-brand aircraft electronics are installed in the cockpits of nearly every airline in the world and its airborne and ground-based communication systems transmit nearly 70 percent of all U.S. and allied military airborne communication.*



*<http://www.rockwellcollins.com/about/history/index.html>

Innovation at Rockwell Collins

- **1998 – Focus on Technology-enabled growth**
 - Connect innovation to the business, but not be driven by the business
- **A system of innovation**
 - Technology panel based planning
 - Scorecard with *sales growth leverage (SGL)* at the core

$$\text{SGL} = \frac{\text{Total 5 yr. R\&D Expenditure}}{\text{Projected (ATC) Impact by BU's (looking out 5 years)}}$$

Synthetic Vision

- **1998 – AFRL research grant**
- **1999 – NASA selects Rockwell Collins to develop synthetic vision for business and commercial aircraft**
- **2002 – Synthetic Vision tested by USAF**
- **2004 – Synthetic Vision demonstrated by NASA Team**
 - **Also demonstrated the modified weather radar**
- **SVS team honored with the 2006 Prometheus Inventor of the Year Award**
- **Integrated SVS into their ProLine Fusion line of products**

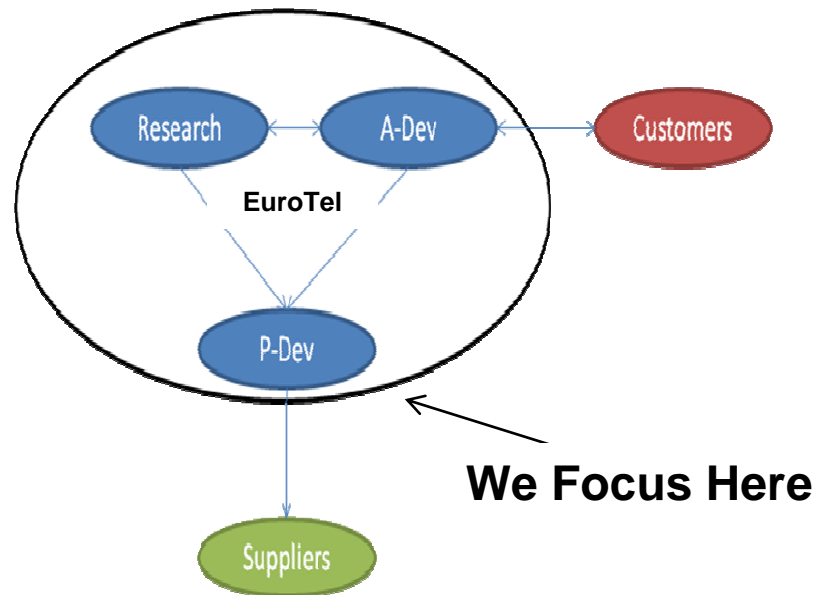
Fostering Innovation

- **The 10X program – Initiated in 2004 to foster disruptive thinking**
 - **Launched with a budget of USD 500,000**
– funded 8/46 ideas
 - **Expanded to US Engineering in 2nd year with USD 1 Million**
- 70+ ideas
 - **Third year**
- 180 proposals

- Initiated in 2005 to answer the question :
How do we collaborate smartly so that we can take ideas and come up with innovative solutions for our customers problems, faster and cheaper than our competitors?
- Fighting the NIH syndrome to drive open innovation – transitioning from *invent & develop* to *connect & develop*
- Established a Technology area council

Cognitive Radio

- **Leveraging Adapt4 technology**
 - **Demonstrate cognitive radio capability for legacy military equipment**
- **David Baugh – 2007 Q4 Open Innovator Award Winner**



- **Tension between the business units**
 - **Minimization of P-Dev's innovation capabilities**
- **Vertical disintegration**
 - **From developing hardware and software to COTS**
- **Multiple channels**
 - **Outsourcing**
 - **Near Shoring**
 - **Global Development**
 - **Students**

P-Dev's Innovation Challenges

- EuroTel does not perceive P-Dev to be the source of innovation
- Diminishing of domain expertise
 - Downsizing and retirement
- Increased offshoring
 - Expect to leverage supplier capabilities, yet
 - Limited investment in supplier capabilities

- **Developing open-source version of a ‘proprietary standard’**
- **Unusual case**
 - reverse engineering
 - Corporate sponsored
- **Team structure – core/floating/observers**
 - Salaried employees
 - Pro-bono contributors

- **Successful firms match their innovation strategy to their business model**
 - **Rockwell Collins focuses on both value creation and value capture, while OpenSource focuses on value capture**
- **Change management and leadership commitment are critical**
- **Engaged and Empowered employees both**
 - **Drive the innovation engine**
 - **Provide the strongest organization sense-making mechanisms**

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