



Innovation Through Engagement

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Zodiac Aerospace Group





Zodiac Arresting Systems

- Aircraft Arresting systems for over 70 years
- Over 5,000 systems sold worldwide
- OEM of over 99% of all systems worldwide
- Approximately 200 Employees in 4 locations
- FY16 Sales of ≈\$100 Million
- ISO 9001, ISO 14001, and OSHAS 18001 certified



Purpose-driven Excellence

OUR VISION:

The global leader mastering safety in motion.

OUR VALUES:

Humility • Realism • An Entrepreneurial Spirit • Respect

OUR MISSION:

We save lives and protect high value assets.

What drives me?

We Save lives





Innovation Through Engagement

Innovation throughout a Lean Enterprise:

- Create an organization-wide innovation process.
- Engage all employees in innovative thought.
- Strengthen your innovative, competitive strength, while
- Applying lean standard work methodology.
- Use Innovative thinking as a fundamental tool for achieving your company's desired future state.



Innovation is a Good Idea...

- There was an important job to be done and **Everybody** was sure **Somebody** would do it.
- **Anybody** could have done it but **Nobody** did it.
- **Somebody** got angry with that because it was **Everybody's** job.
- **Everybody** thought **Anybody** could do it but **Nobody** realized that **Everybody** wouldn't do it.
- It ended that **Everybody** blamed **Somebody** when **Nobody** did what **Anybody** could have done.

Author Unknown



Lean and Innovation = Value

Lean and Innovation are both focused on **Value to the Customer**.

Lean focus:

- Add **Value**
- Remove **Waste** (no **Value** to the Customer)

Innovation focus:

- Create **Value**
- Improve access to **Value**



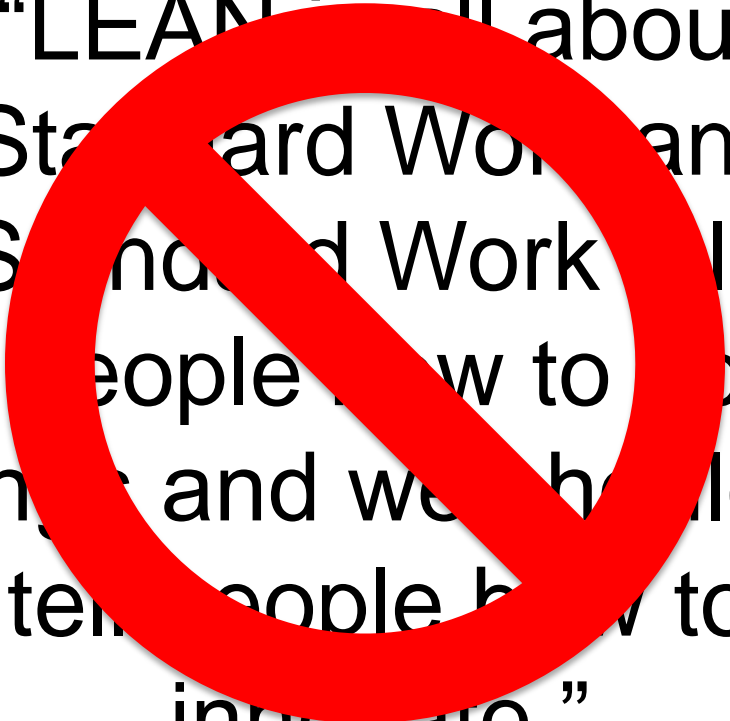
Innovation in a Lean Environment

“LEAN is all about Standard Work and Standard Work tells people how to do things and we shouldn’t tell people how to innovate.”



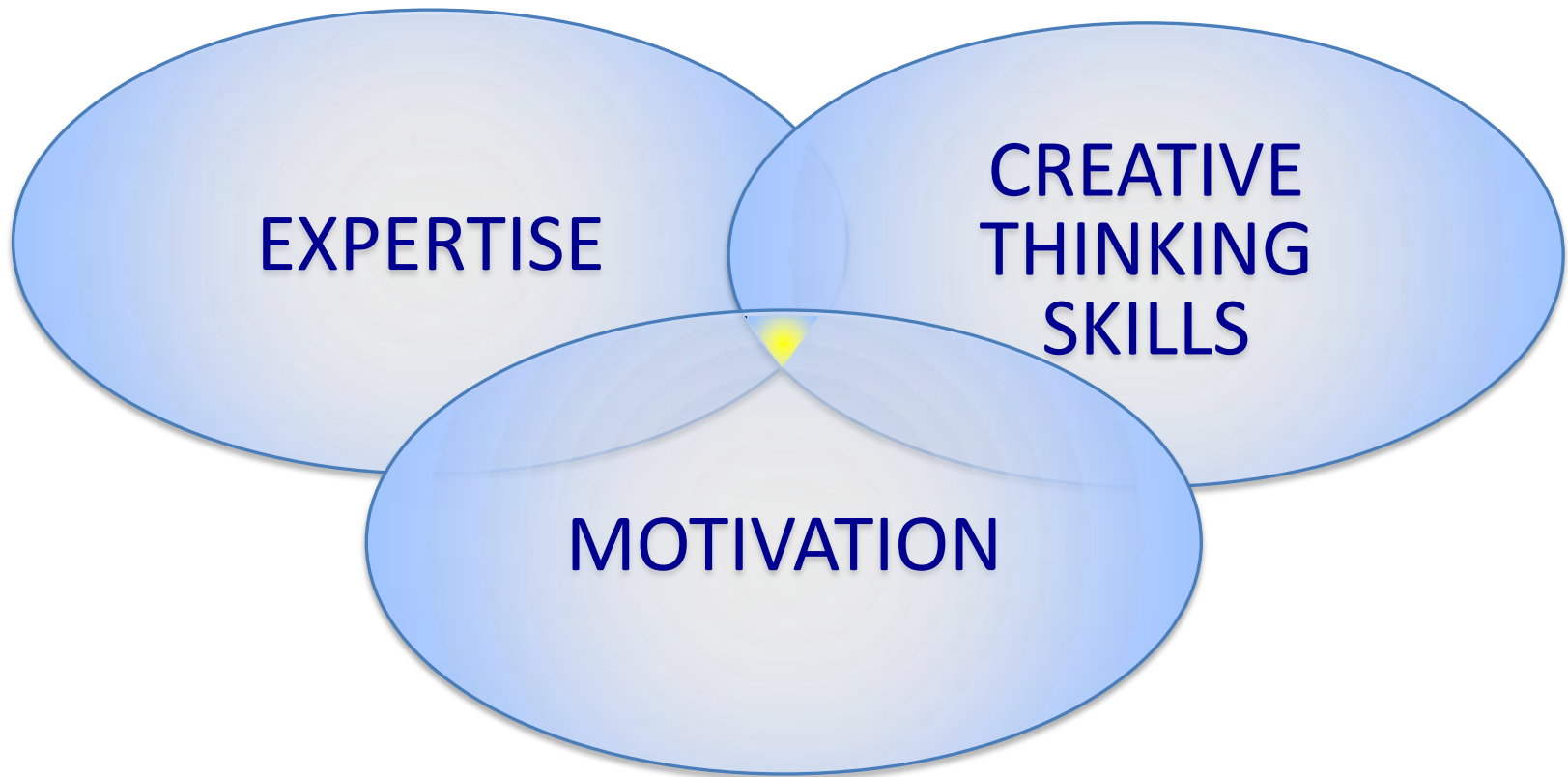
Innovation in a Lean Environment

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Innovation in a Lean Environment





Charter for Innovation

“Establish a sustainable innovation process that drives and rewards innovation throughout the company that includes a documented procedure for the capture, evaluation, and storage of new ideas.”

- Sustainable
- Reward and Recognition
- Documented Procedure
- New Ideas



Promoting Innovative Thought



The Pit Crew

- Manages Innovation Time program
- Administrates Idea Database
- Reports to Investment Council
- Facilitates activities for other departments
- Works to improve culture of innovation

Promoting Innovative Thought



The iCouncil: Executive Oversight

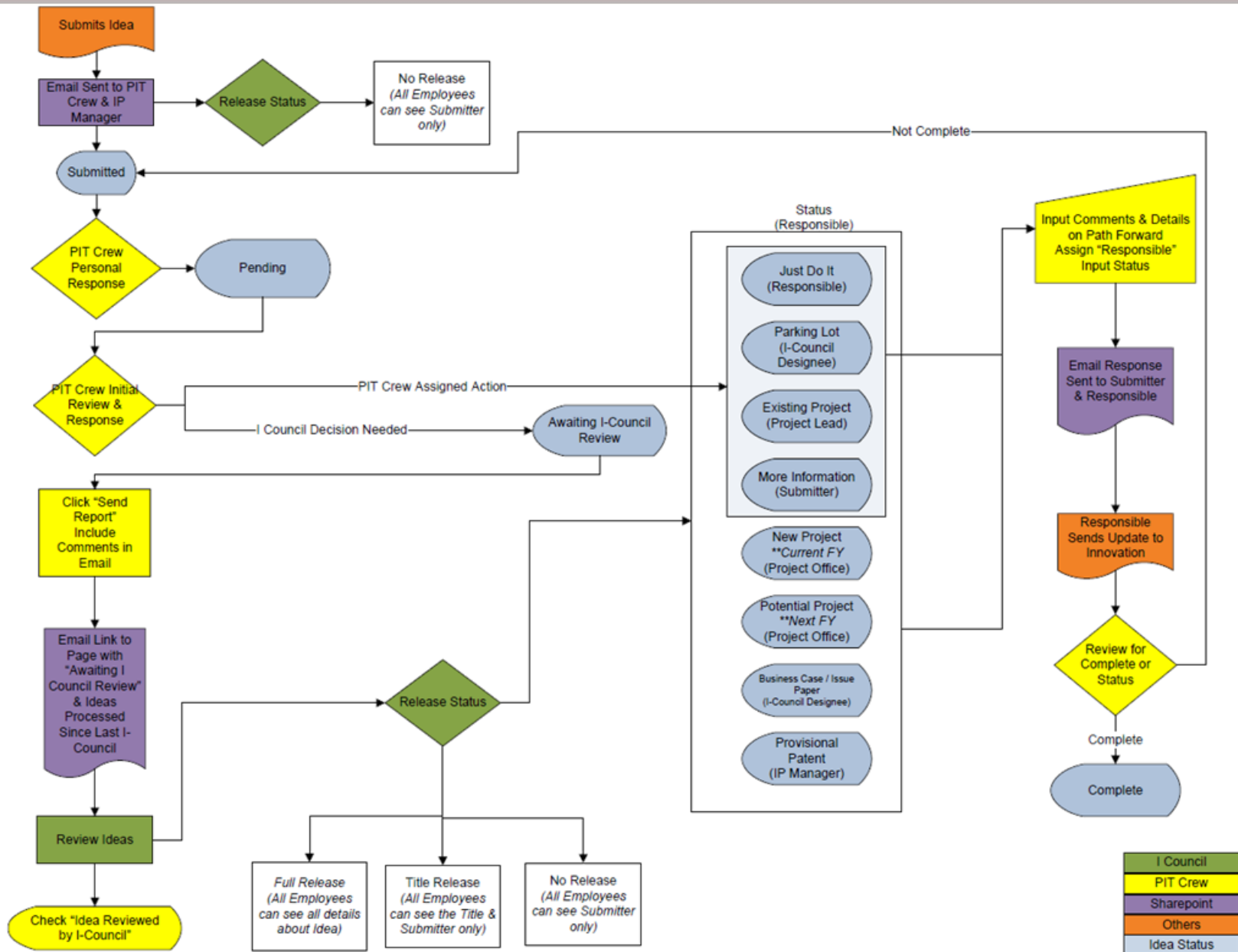
- Division CEO
- CFO
- BU Presidents
- BU R&D Managers
- BU Marketing Managers
- BU Production Managers

Approving body for:

- Innovation Time Projects
- Future Development – R&T and PD
- Investments
- Idea Database Approval
- Changes to Processes/Systems



Idea Flow

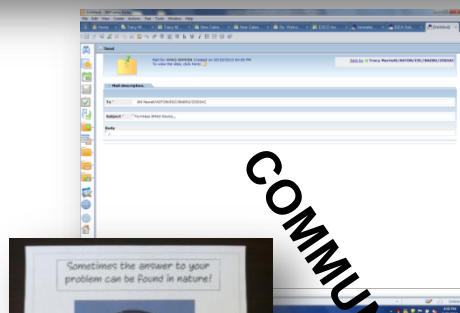




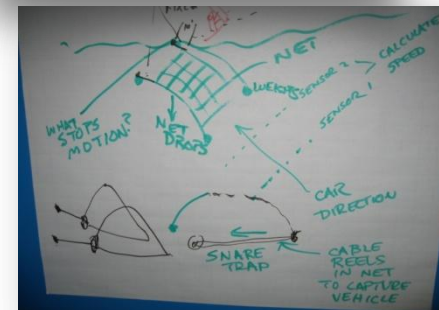
Innovation Activities



**ACADEMIC
ENGAGEMENT**



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What is "Innovation Time"?

4 hours per week for 6 months for you to pursue your ideas.

Measures of Success

Actionable ideas leading to:

- R & D Proposals
- Business Opportunities
- New Product Development
- Process Improvements

HELP from the Pit Crew

Creativity Training

- Book Club,
- Excursions, etc.

Innovation Time Blog

Reminders and Resources

More HELP

Participant Meetings

- Help from your peers
- #### iCouncil Reviews
- Help from the Staff

WIFM?

- Science Fair
- Celebration Lunch
- Recognition
- Possibly a patent!

What's NEW?

Teams!

- Support each other
- Accomplish more



iCouncil – Staff Support

iTime iCouncil Review: Suggested Questions

- What resources do you need from us?
- Has anyone done anything like this before?
- Is there any competition in this space?
- What has ESCO learned from your research that we did not know before?
- What core competency does this project capitalize on?
- What are the major pitfalls going forward?
- Do we have the technical/business capability to do this work in house?
- Have you reviewed any patent or legal implications?
- Have you identified customers?
- Have you considered voice of the customer?
- Have you talked to experts familiar with this market/process?
- Are there any other markets that could also benefit from your idea?
- What next steps would you take if you had additional resources?
- Are you having difficulty spending your innovation time? If so, why?
- Has your supervisor been supportive of your innovation time activities?
- Have you learned new skills that can be transferred to others in the organization?
- Have you found any new technology that could be applied to other aspects of the business?

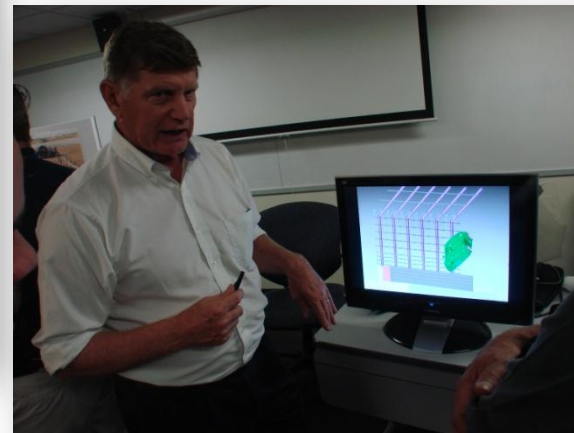
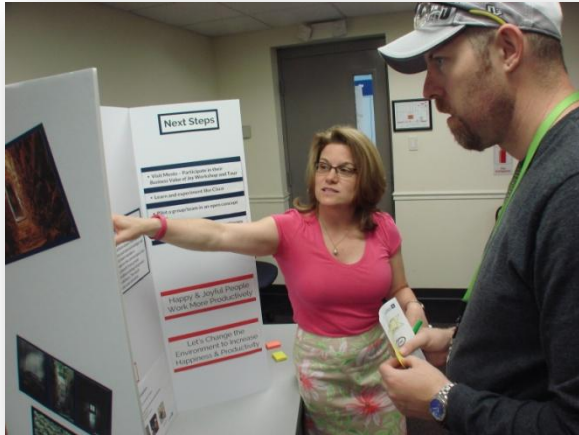


iCouncil – Staff Support

- How can we help?
- Competition?
- Core competency?
- IP?
- Customers?
- Experts?
- Next Steps?
- Do you have innovation time?
- New skills?



Science Fair





Innovation Time Results

Actionable ideas leading to the development of:

- Research and Development Proposals
 - 1 New Project
 - 10 Potential Projects
- Business Opportunities
 - 1 Business Model Proposal
 - 1 New Market Study
- New Product Development
 - 2 Patent Applications

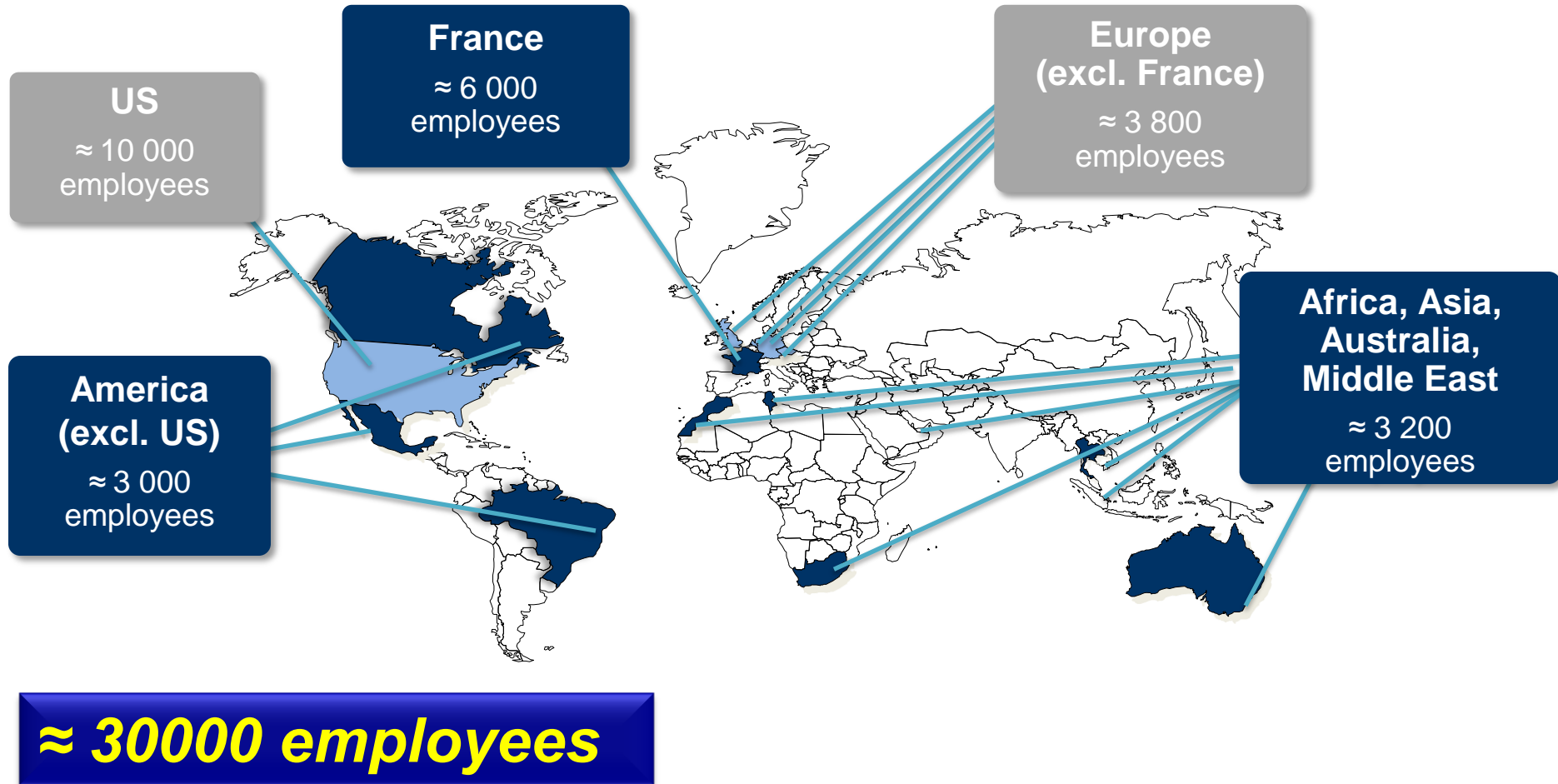


Resources & Rules

- Provide internet access – Google!
- Give them a budget – Prototypes!
- Facilitate outside support – Experts!
- Location, Location, Location!
- Keep Things Confidential – IP!
- Track Innovation Time spent – Innovation is part of the job!
- Recognize the participants relentlessly



≈ 150 employees





Zodiac Aerospace

- Established in 1896
- A world leader in aerospace equipment and systems
 - Cabin Interiors (59% of sales)
 - Aircraft Systems (20% of sales)
 - Aerosafety & Technology (21% of sales)
- Among the World's top 10 equipment manufacturers - \$5B Revenues
 - Turnkey integrated systems
 - Innovative and break-through designs
 - A Tier 1 partner positioned for future aircraft platforms





Open Innovation in Zodiac

- Open Innovation was completely unknown to Zodiac Aerospace
- Expand our idea generation to all Zodiac employees
- New innovative ideas for future Zodiac products:
 - better ideas for our current products
 - disruptive innovations for the future
- Educate all employees about innovation
- Test the effectiveness of Open Innovation for Zodiac



Open Innovation – The Challenge Platform

ZODIAC AEROSPACE Home Submit idea Ideas Community About LOGOUT

ZODIAC AEROSPACE
THE OPEN INNOVATION
CHALLENGE

SUBMIT IDEA

1 WHAT'S THIS PLATFORM ABOUT?

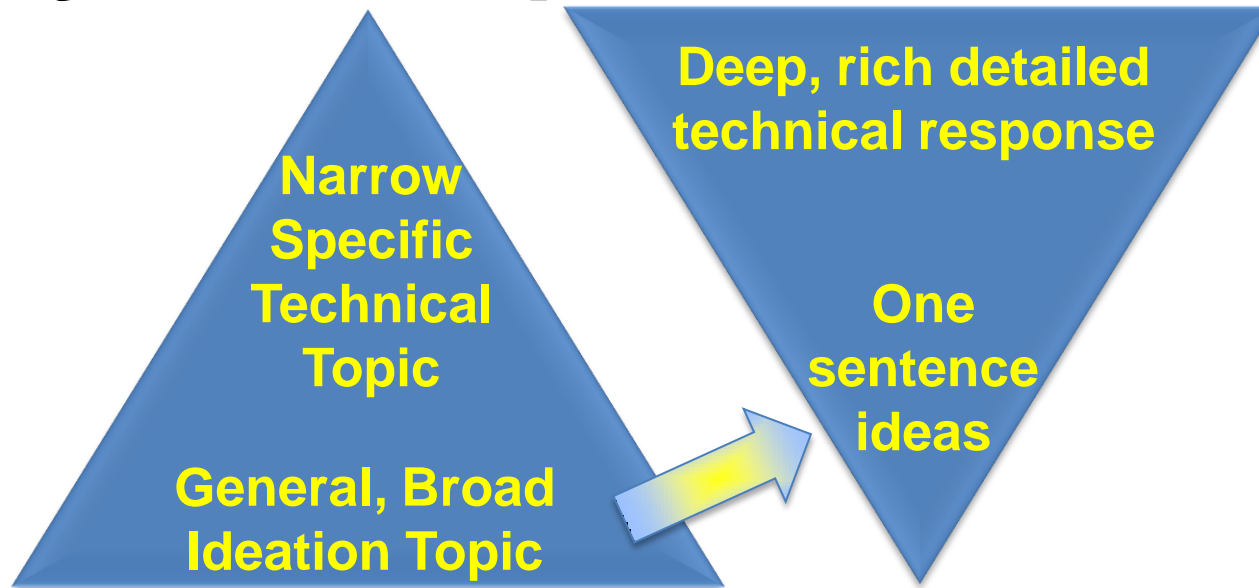
Together with its Open Innovation Challenge as an idea competition, Zodiac Aerospace wants to invite all employees to generate innovative ideas and concepts for Zodiac Aerospace. Therefore employees of all entities such as Zodiac Aerosafety, Aircraft Systems, Cabin and Structures, Galleys and Equipment, Seats and Zodiac Aerospace Services and its global locations are asked to share

2 HOW IT WORKS

DISCOVER IDEAS



Why this Topic for the Pilot?



- A broad, general topic for broad participation
 - Everyone flies
 - Everyone could innovate ideas to improve the passenger experience
- Our core business



Innovation Challenge

“How can we enable passengers to create or control their individual cabin experience?”



Open Innovation - Idea Examples

A new Economy seat with a folding section that converts the seat into a bed for families



A new seat concept and a new armrest



Open Innovation Challenge – Evaluation Criteria



Feasibility



Degree of Innovation



Wow
Idea!



Market
Potential



Open Innovation Challenge – Results After 8 Weeks

- 2746 Active Members
- 610 Ideas / 2051 Comments
- 324 members (13.5%) submitted an idea
- Average Session Duration: 08:43 min.
- 178,758 page views



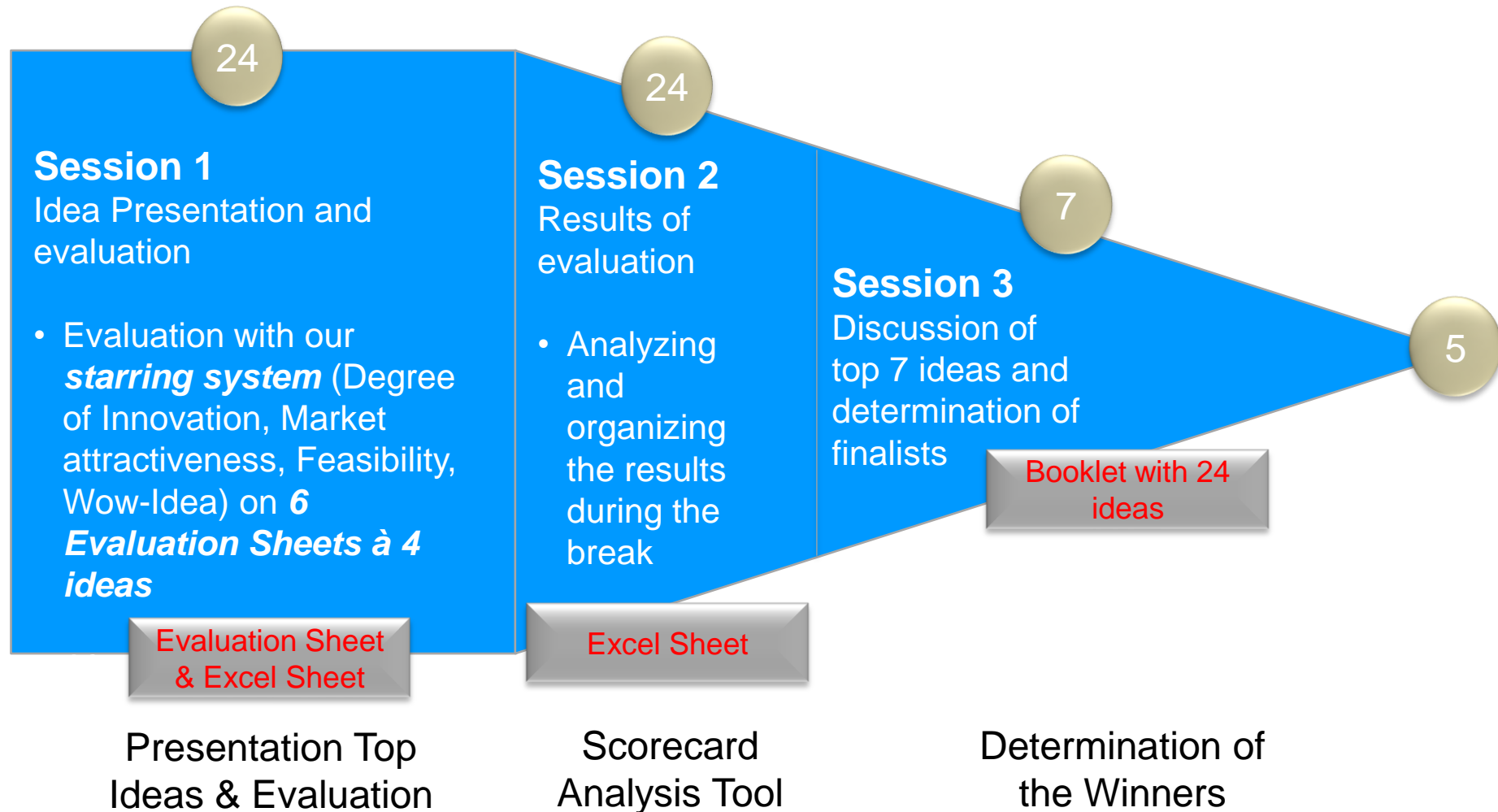


Open Innovation Challenge - Dispatching Process



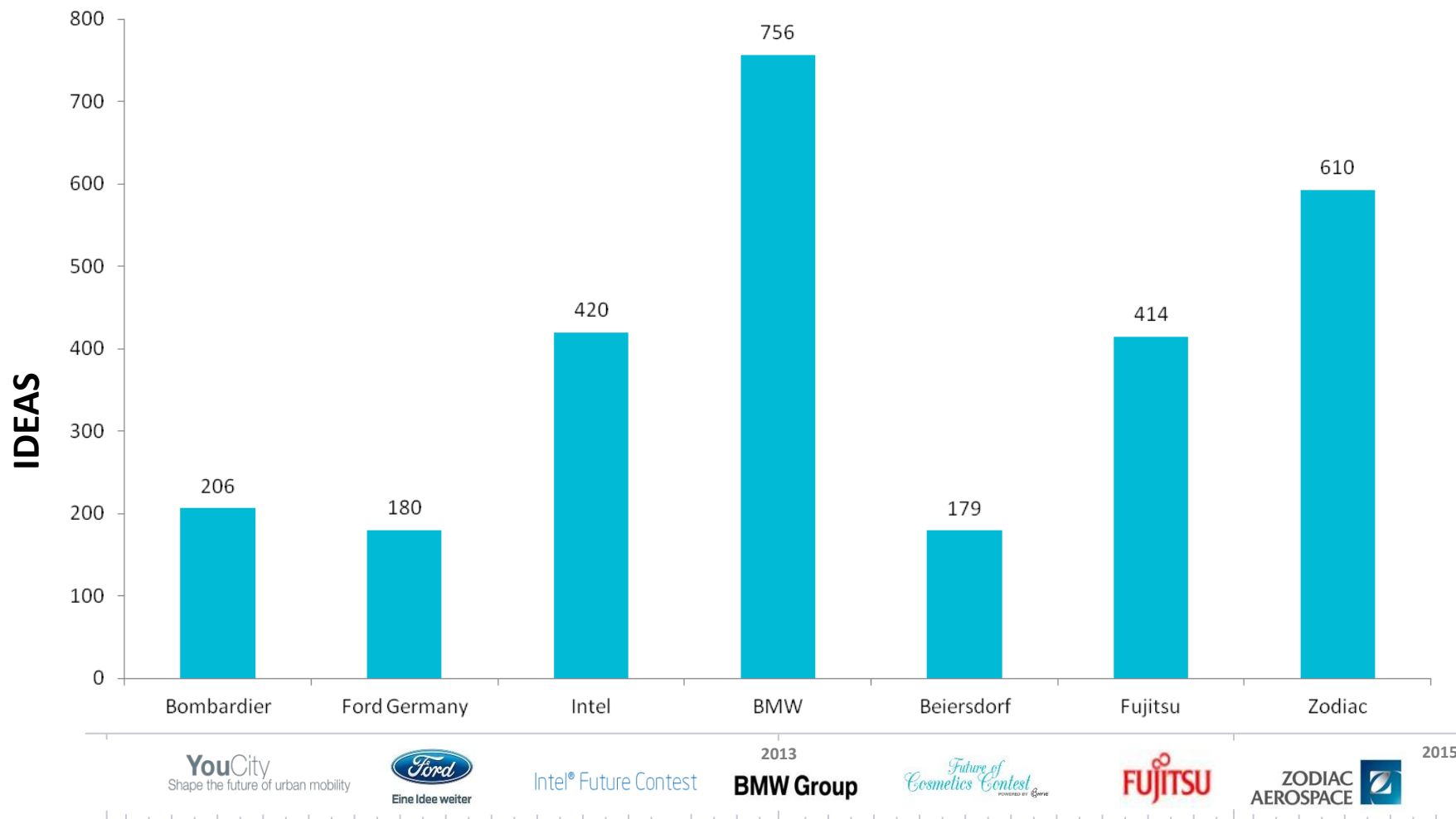


The Evaluation Process





Open Innovation Benchmarking





What's Happening Now?

- Winning ideas are being worked on within the appropriate Zodiac Aerospace business units
- Workshops will occur with each winning team involved to further understand each idea vision
- Each winning idea will be considered in the same way any new product idea is evaluated
- Each team will track and learn whether that team's concept(s) will be taken all the way to our Zodiac Aerospace airline market



What Did We Learn?

- The on-line platform
- “Communications Plan” is extremely important
- Email effective communication tool
- “Expert” engagement with the community
- “Technical Specialists” time was underestimated
- “Gaming the system”
- 30% of ideas already exist on aircraft
- Allow the jury to be flexible
- Financial (cash) incentives are not important
- Huge undertaking



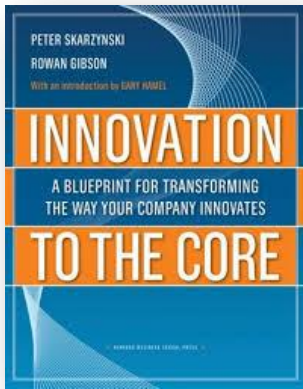
Contributing to
Aerospace Legend
since 1896

“At lean companies, management listens to workers’ recommendations... They take workers’ comments seriously.”

Rethinking Lean: Beyond the Shop Floor

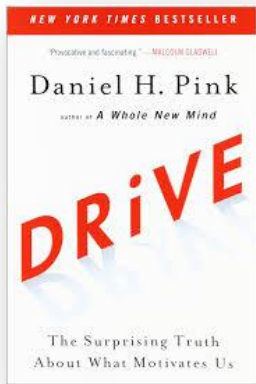


Recommended Reading



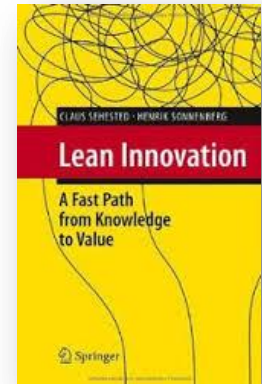
- *Innovation to the Core – A Blueprint for Transforming the Way Your Company Innovates*, P. Skarzynski & R. Gibson

- *Joy, Inc. – How We Built a Workplace People Love*, R. Sheridan



- *Drive*, Daniel H. Pink

- *Lean Innovation – A Fast Path from Knowledge to Value*, C. Sehested, H. Sonnenberg





On the Web:

<http://knowledge.wharton.upenn.edu/special-report/rethinking-lean-beyond-the-shop-floor/>

<http://www.innovationexcellence.com/>

<http://www.newandimproved.com/newsletter/>

- *The Need for Innovation and Lean: Managing the Paradox Between Newness and Quality*
- *How To Cook Up Innovation In Your Organization*



Thank You!

Your opinion is important to us!

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Session: WP/33

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