



Strategy Alignment & Deployment through Enterprise Change Capabilities

Dr. George Roth
MIT Sloan School of Management

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Avionics/Missiles

BAE SYSTEMS North America
Northrop Grumman Electronic Systems
Northrop Grumman Mission Systems
Raytheon Co.
Raytheon RMS, NCS, SAS
Rockwell Collins
Textron Systems
L3 Comm

Space

Lockheed Martin Space Systems Co.
Northrop Grumman Space Technology

EdNet

37 colleges and universities in the U.S., UK,
and Mexico make up LAI's Educational Network

Airframe

Bell Helicopter Textron
Boeing Integrated Defense Systems
Boeing Commercial Airplanes
Lockheed Martin Aeronautics Company
Sikorsky Aircraft (UTC)

MIT

Engineering Systems Division
Aeronautics & Astronautics
Mechanical Engineering
Sloan School of Management

Other Participants

IAM
AIA
DAU
IDA
International Collaborations:
Linköping University
Warwick, Bath, Cranfield
Nottingham Universities

Propulsion/Systems

Rolls Royce (N.A.)
Pratt & Whitney (UTC)
Hamilton Sundstrand (UTC)
Curtiss-Wright Flight Systems
Harris Government Comm.

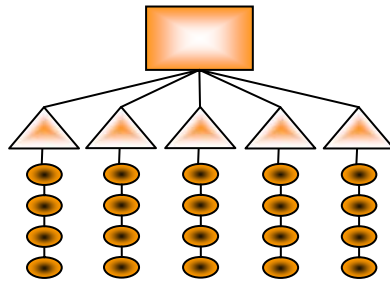
US Air Force

SAF/AQ
Aeronautical Systems Center
Air Force Research Laboratory
(Materials and Manufacturing Directorate)
Space and Missile Systems Center (SMC)
Electronic Systems Center
SPOs: F-22, C-17

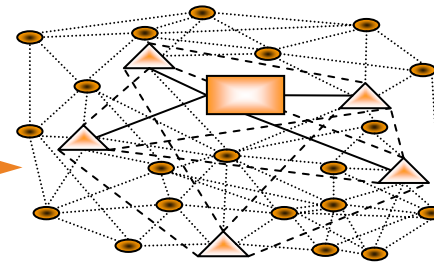
Other Government

DCMA
NASA
NAVAIR
AMCOM
OUSD(AT&L)
NRO

- Adapting to ever-changing external environments
- Managing increasing technological complexity
- Coordinating across multiple stakeholders and interfaces
- Working through collaborative networked enterprises



MOVING FROM THE PAST
(vertically integrated) organizations



TOWARDS THE FUTURE
(networked) enterprises

Strategy Alignment & Deployment → Strategic Change Implementation

Understanding Lean + Enterprise + Change

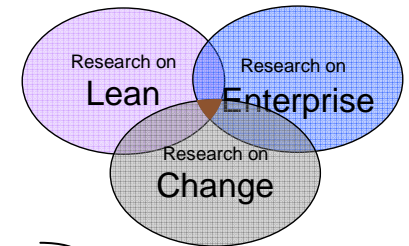
What data and experience do we draw upon?

• Books/documented studies

- Toyota and “lean” – i.e. The Machine that Changed the World, The Toyota Way, Remade in America, Collaborative Advantage
- Management/leadership – i.e. Built to Last, Good to Great, Execution, The Leadership Engine
- Corporate/leadership – i.e. Jack, Who Says Elephants Can't Dance?
- Strategy/Change – i.e. The Innovating Organization, Leading Change, Breaking the Code of Change, The Dance of Change

• Case studies that identify concepts – successful “lean” change

• Enterprise deployment projects that develop and test concepts



lean+change

change+enterprise

lean+
enterprise+change

Enterprise transformation & change ... evolving from lean initiatives

Raytheon

Specify value in the eyes of the customer
Identify value stream; eliminate waste and variation
Make value flow at pull of the customer
Involve, align & empower employees
Continuously improve knowledge in pursuit of perfection

Warner Robins
Air Logistics Center

North Star
Vision P.R.I.D.E.
Goal "Transform" the Center
Objectives
Lean - Partnering - Workforce Development
Maintenance
Sustainment Management
Purchasing & Supply Chain Management
Force Deployment
WRALC Sustainment Management
Base Support
Infrastructure
Financial Mgmt
Contracting
And program
Eng a Tech
Info Tech
Intelligence
Environment
Human Resources

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Rockwell Collins

Leadership
Activity Flow

- Remove Flaws: Bases, Errors, Create the 100% and Bottom Line
- Set Goals: Performance, Problem Solving, Streamline, Alignment
- Review Program
- Collaborate & Communicate: Establish Metrics, Verify Goals, Report Progress
- Review Identity: Verify Goals
- Share Information: Share Changes, Improve Reliability
- Set Targets: Map, Measure, Improve, Control
- Plan: Change Your Culture, Change Your Mindset, Change Your Behavior, Change Your Results
- Do: Get Your Strategy Right
- Check: Measure, Improve, Control
- Act: Set Targets, Map, Measure, Improve, Control

Rockwell Collins: Lean Enterprise Timeline

1996
Firm Accomplishments and Results:
Inducted into the top 100
named one of the top 10 plants

1997
Lean consulting services
Higher A
First SAP ERP "go live" successful

1998
December
May

1999
Lean Electronics Initiative
Cray Jones succeeds
Lean Electronics Initiative
Leadership Team officials "something special"
First SAP ERP "go live" successful

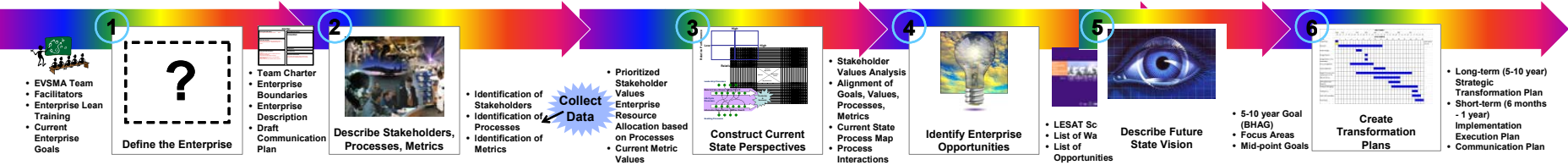
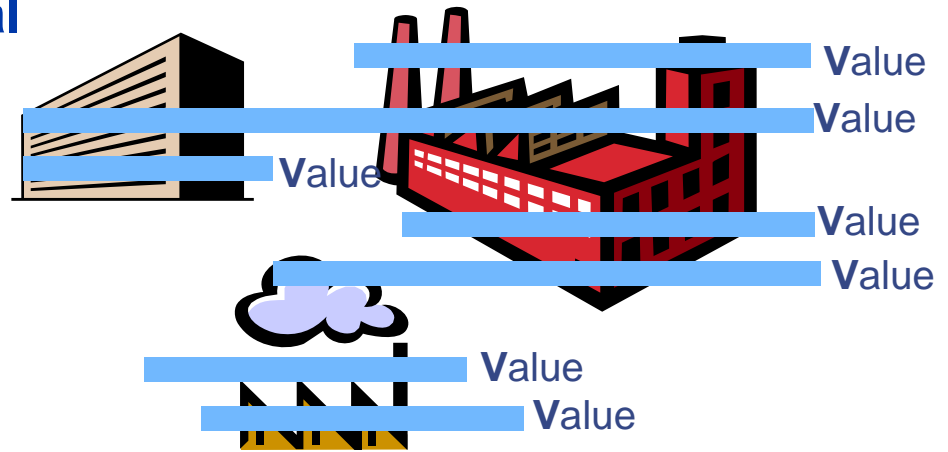
Letterkenny Army
Depot

UNITED STATES ARMY
LETTERKENNY ARMY DEPOT

| Month | Vehicles |
|-------|----------|
| D | 0 |
| J | 50 |
| F | 100 |
| M | 150 |
| A | 200 |
| M | 250 |
| J | 300 |
| J | 350 |
| A | 400 |
| S | 450 |
| O | 500 |
| N | 550 |
| D | 600 |
| J | 650 |
| F | 700 |

Enterprise Value Stream Analysis

- A portrayal of the relationships of the enterprise with its external environment and the general ordering and integration of high-level internal enterprise processes



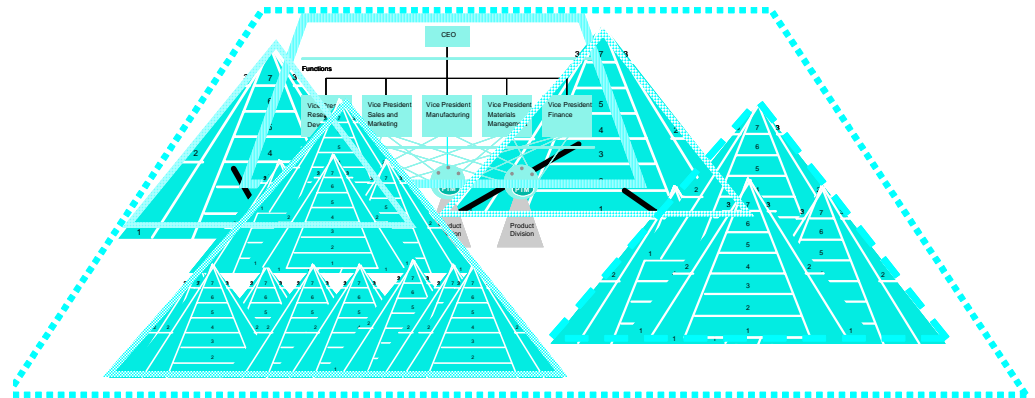
Developed in MIT's Lean Enterprise course and deployed at:
 Ogden ALC, Tinker ALC, Warner Robins ALC,
 Joint AFMC & SAF/AQ Future of Acquisition Team,
 Space and Missile Systems Center

Limitations of Planned Organizational Change

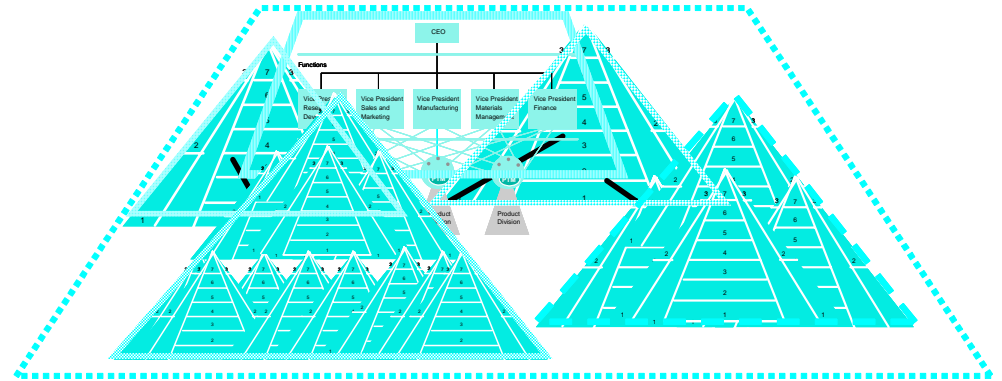
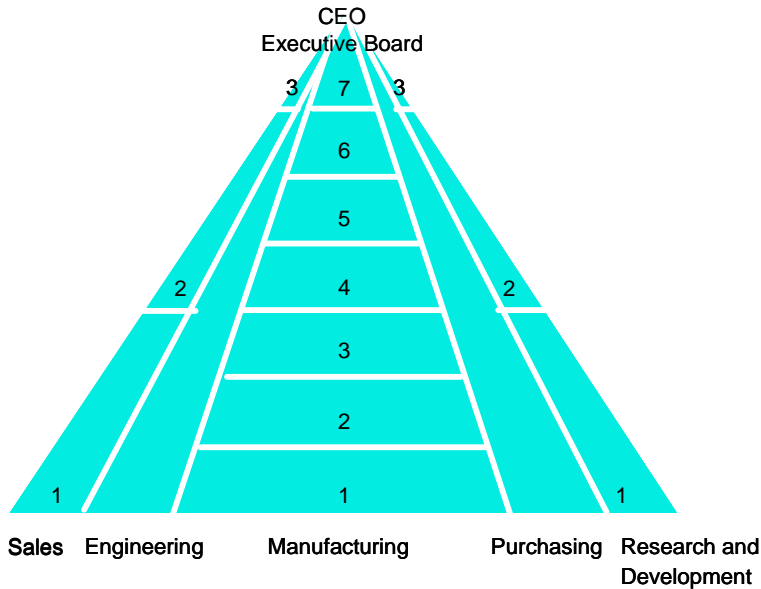
Multi-organization enterprise form:

- New organizational forms correlate with high performance

- Enterprises are:
 - Poly-centric
 - Multiple relationships
 - Loosely coupled



Challenges of Enterprise Change



- There are different assumptions about change and context
- We can not assume that we can bootstrap past knowledge
- We need a change theory developed in an enterprise context

A approach to *Enterprise Change* requires...

- **Identification** – recognition of the system and network
 - *you can not engage and improve what you do not identify*
- **Directiveness** – Providing direction, order, and alignment
 - *you can not “organize” a mess*
- **Crossing boundaries** – work across units and organizations
 - *Demonstrate gains to inspire action in others*
 - *Set and manage boundaries through standards and plans*
 - *Power and politics within organizations are learnings’ enemies*
- **Developing performance** – within and then across
 - *A potential worse-before-better dynamic requires*
 - *Intergenerational and strong distributed leadership to sustain*

Note: These enterprise change propositions are contrary to current organizational change practices of relaxing central control, encouraging countless initiatives, and focusing internally.

Capabilities for Enterprise Lean Change

Capabilities are:

- *resources, talents, and abilities of an organization and its people*
- *that have the potential for development and use, and in their use,*
- *create expected outcomes while further developing themselves*

