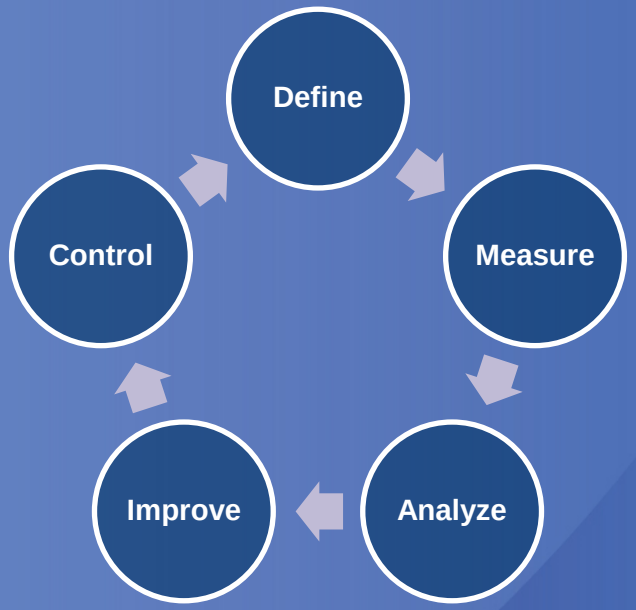
BNL's Competitiveness Improvement Process (CIP)



Stasia Ann Scocca

May 22, 2012

BROOKHAVEN NATIONAL LABORATORY

a passion for discovery

Office of Science
U.S. DEPARTMENT OF ENERGY

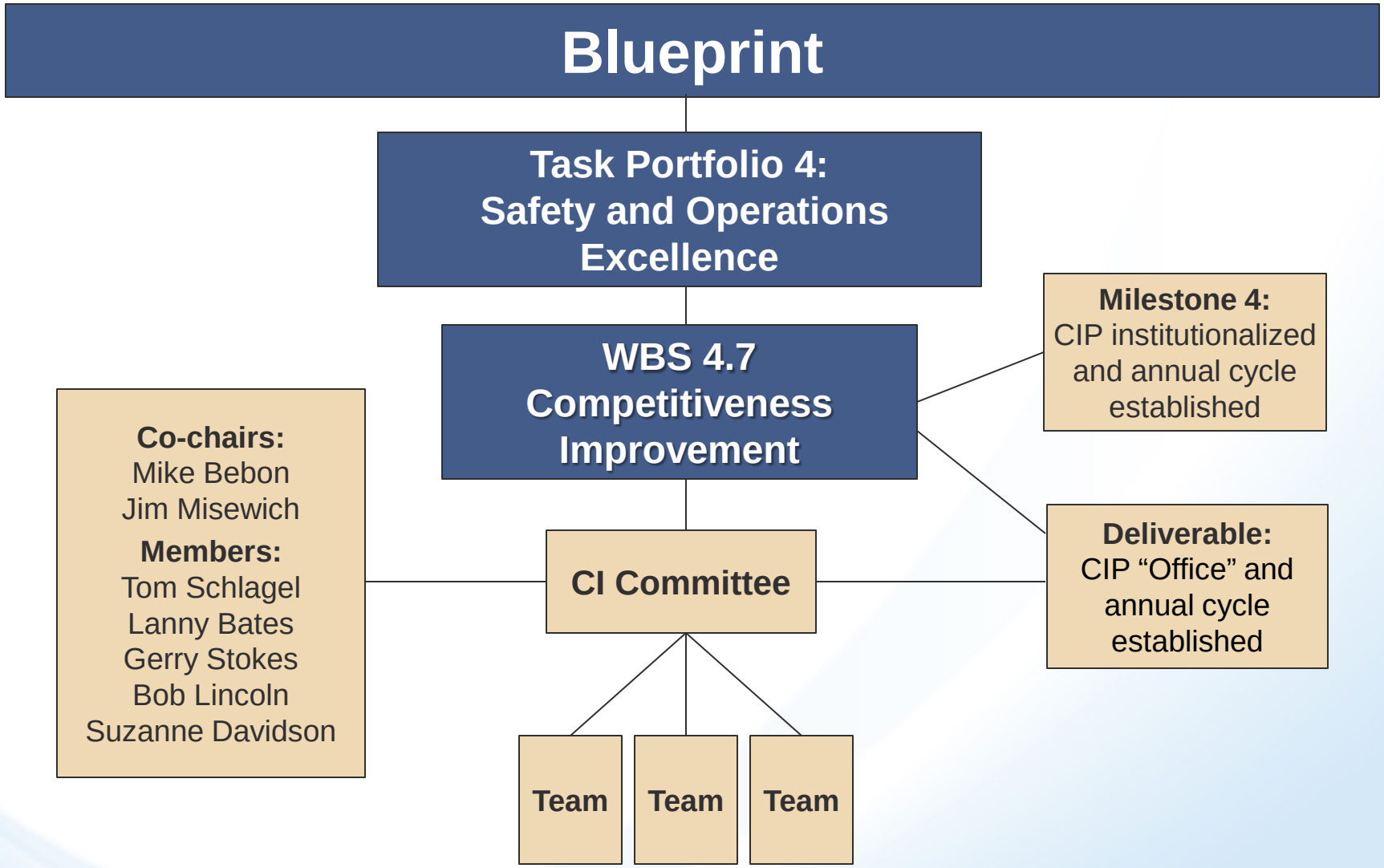
Agenda

- What is CIP? Why CIP?
- BNL's Improvement Approach
- Project Expectations and Team Roadmap
- CIP Principles
- Lean Six Sigma
- DMAIC Methodology
- Change and The People Side

What is CIP? Why CIP?

- Project to improve repetitive business processes
  - Cost and quality (efficiency and effectiveness)
  - Become and stay competitive
    - Achieve growth planned over the next decade
- Use proven methodology & tools - Lean Six Sigma (LSS)
  - Identify and reduce waste and variation
    - Maximize value and reduce cost
  - Decisions driven by data and facts
  - Involve users of the process / listen to the “voice of the customer”
- Cross-functional team-based initiative
  - Make it easier for all of us to do our work
  - Cut out “waste” and reduce variation to free up additional capacity
    - Enable us to do other important work and help the Lab grow

Alignment



Expected Outcomes

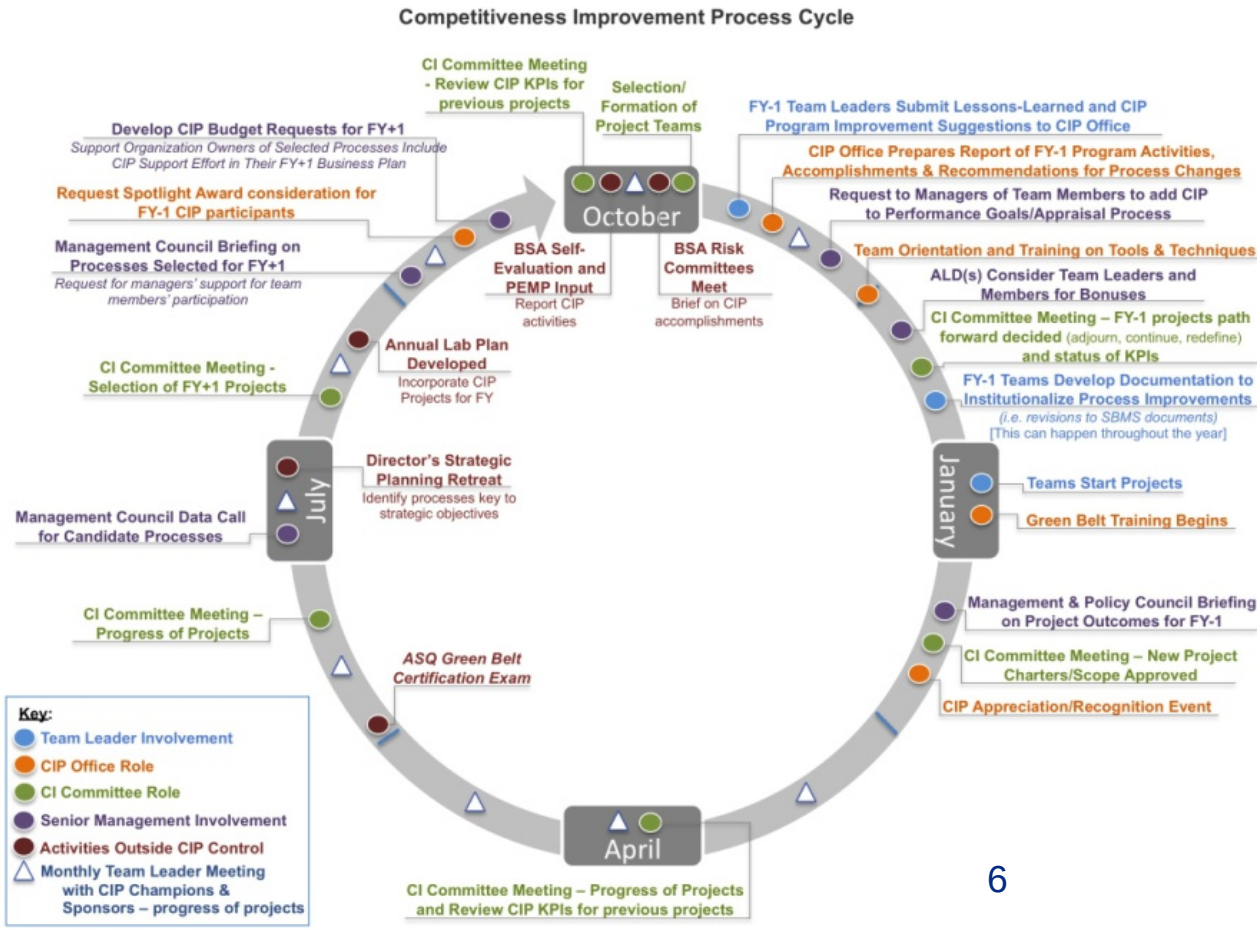
- Improve the Laboratory cost competitiveness by optimizing costs and service quality using a lean six sigma approach
- Infrastructure to sustain this lean six sigma-based Laboratory-wide continuous improvement process

BNL's Improvement Approach

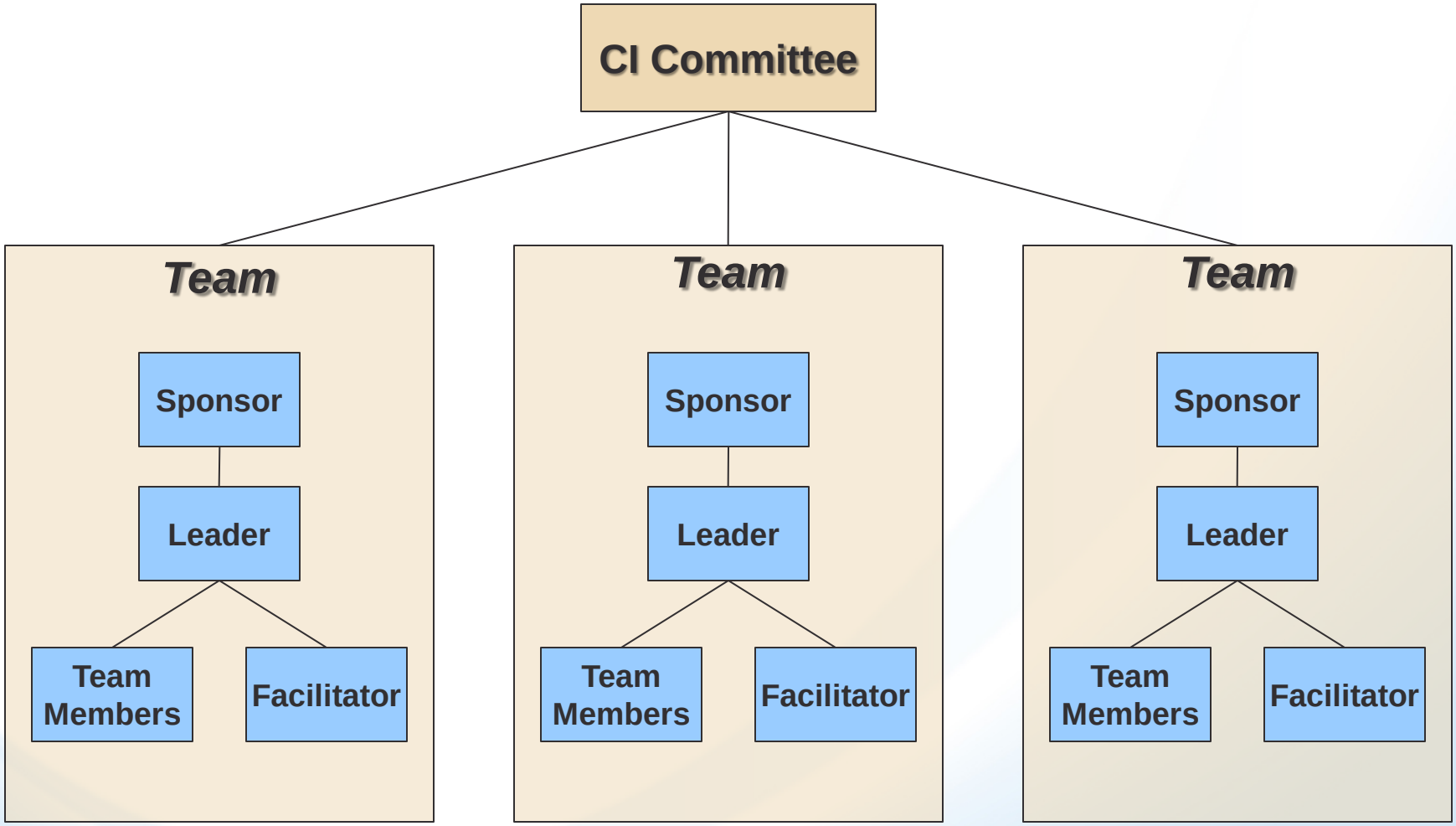
- Create **Relevance** to Attract Stakeholders
- Establish **Infrastructure** to Ensure:
  - Management Sponsorship
    - Involvement via Steering Committee
  - Systematic but Pervasive Development of Skills by Internal Experts
    - Change Agents
  - Development of Appropriate Tools to Support Projects
    - Web Site, Management Tool, Standardized Reporting
  - BNL Competitiveness Improvement Process (CIP) Office
- **Align** Improvement Activities with *BNL* Objectives
  - BNL CIP Program
  - Align Each Project with *Performance Measures*
- **Accountable** and Transparent Management
- **Promote and Celebrate** Success

Improvement Cycle

- CIP operates using an annual cycle
- Institutional projects are selected during the beginning of the fiscal year



CIP Structure



CIP Office

Provides assistance to ensure success of sponsored improvement projects by:

- Providing training
- Facilitating and consulting with improvement teams
- Assisting with analysis
- Developing and managing necessary reporting tools
- Consolidating and communicating results

Improvement Projects

- Project Selection:
  - CIP Committee members (from senior management) submitted candidates (cross-cutting processes)
  - Processes prioritized based on risk and impact/effects on BNL

- FY10 Projects:
  - Guest Users
  - Immigration Services - Visas
  - Routine (Small) Purchasing

- FY11 Projects:

  New -
  - Proposals Process
  - Hiring/On-boarding
  - BORE (Beneficial Occupancy Readiness Evaluation)

  Continuation Projects -
  - Immigration Services - Green Cards
  - Guests & Visitors

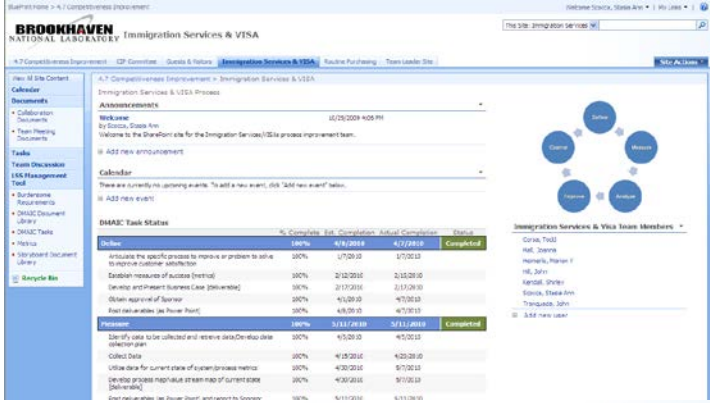
- FY12 Projects:

  New Institutional -
  - Electronic ESR
  - Integrated Operational Performance System
  - SBMS
  - Space Management
  - IFM

  New Departmental -
  - Calibration
  - Radioactive Waste Management

  Continuation Projects -
  - Immigration Services - Green Cards
  - Guests & Visitors – One Registration System
  - Proposals Process
  - Hiring/On-boarding

Tools



- Monthly Progress Review
  - Team Leader Meeting with Co-chairs and Sponsor
  - Standard briefing format
- SharePoint
  - General Competitiveness Improvement Project Site
  - Each Team has a Site
    - Post Announcements
    - Calendar Events
    - Documents
    - Tasks
    - Team Discussion
    - Management Tool (populates management dashboard)
    - Burdensome requirements
    - DMAIC task manager
    - Metrics

Project Expectations

- **Focus on the customer(s) / user(s)**
- Understand and articulate what is being improved and why
- Establish metrics to measure success
- **Make decisions based on data and facts**
- **Be open to new ideas and approaches**
- Stay within project scope
- Examine interactions (hand-offs) between departments, offices, work groups, etc.

- **Show improvement / results!**

CIP Team Roadmap:

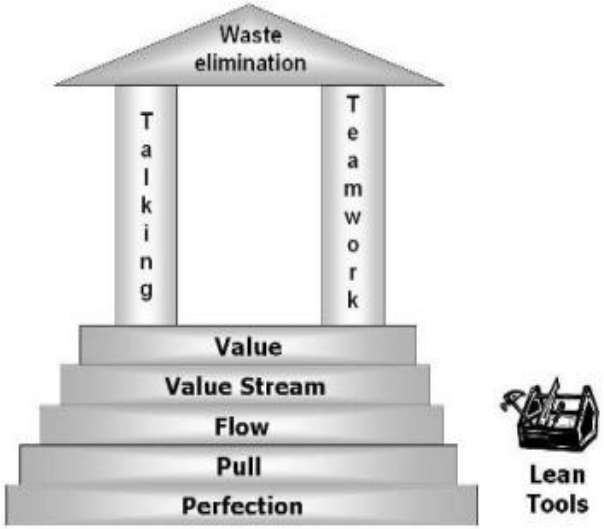
- **Simplify the process**
  - Eliminate/minimize non-value added steps; i.e. **WASTE**
- **Combine steps in the process to eliminate wait time**
  - Reduce hand-offs
- **Perform steps in parallel where possible**
  - Parallel processing
- **Align hand-offs**
  - “Pull" what is needed from previous step in the process, only that triggers new actions (pull rather than push)
  - Strive for continuous flow - one complete item proceeds through various steps, without interruptions (no batching)
- **Utilize technology to enhance efficiency & effectiveness (IT)**
  - Only automate <u>after</u> streamlining
- **Determine impact on metrics**
  - How will success be measured?
  - What are the project results?

CIP Principles

- **Reduce Lead Time**
- **Reduce Variation**
- **Connect and Empower People…**
  Make Improvements Through People

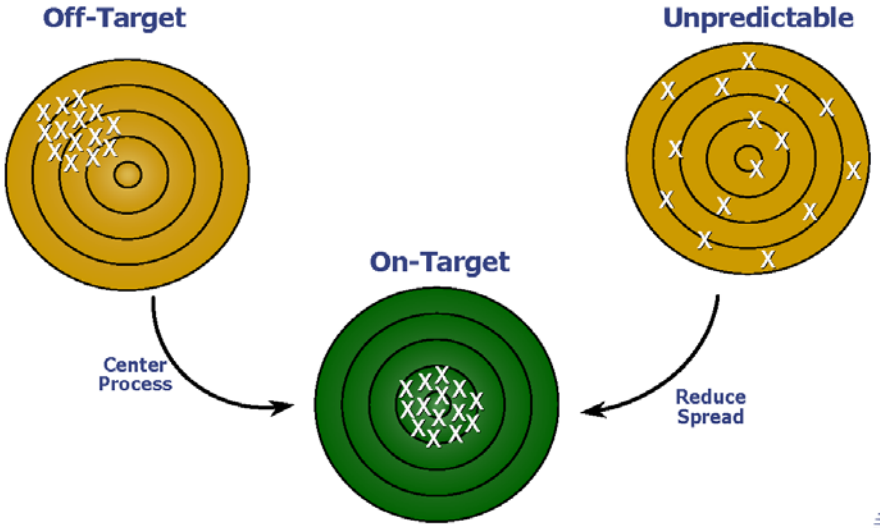
Lean and Six Sigma Contribution

- **Lean**
  - Lean focuses on eliminating non-value added steps and activities in a process
  - Lean makes sure we are working on the right activities
  - Lean establishes the value flow as pulled by the customer



Source: Air Academy Associates

- **Six Sigma**
  - Six Sigma focuses on reducing variation from the remaining value-added steps.
  - Six Sigma makes sure we are doing the right things right the very first time
  - Six Sigma makes the value flow smoothly without interruption



LSS Thinking – 3 Forms of Work

- **Value-added**

- **Non value-added, but necessary**
  (requirements, regulations & capability)

- **Non value-added**
  ("Waste")

The 8 Wastes – Non-value Added…

"DOWNTIME"

- **D**efects
- **O**ver-production
- **W**aiting
- **N**on-utilized resources/talent
- **T**ransportation
- **I**nventory
- **M**otion
- **E**xcess processing

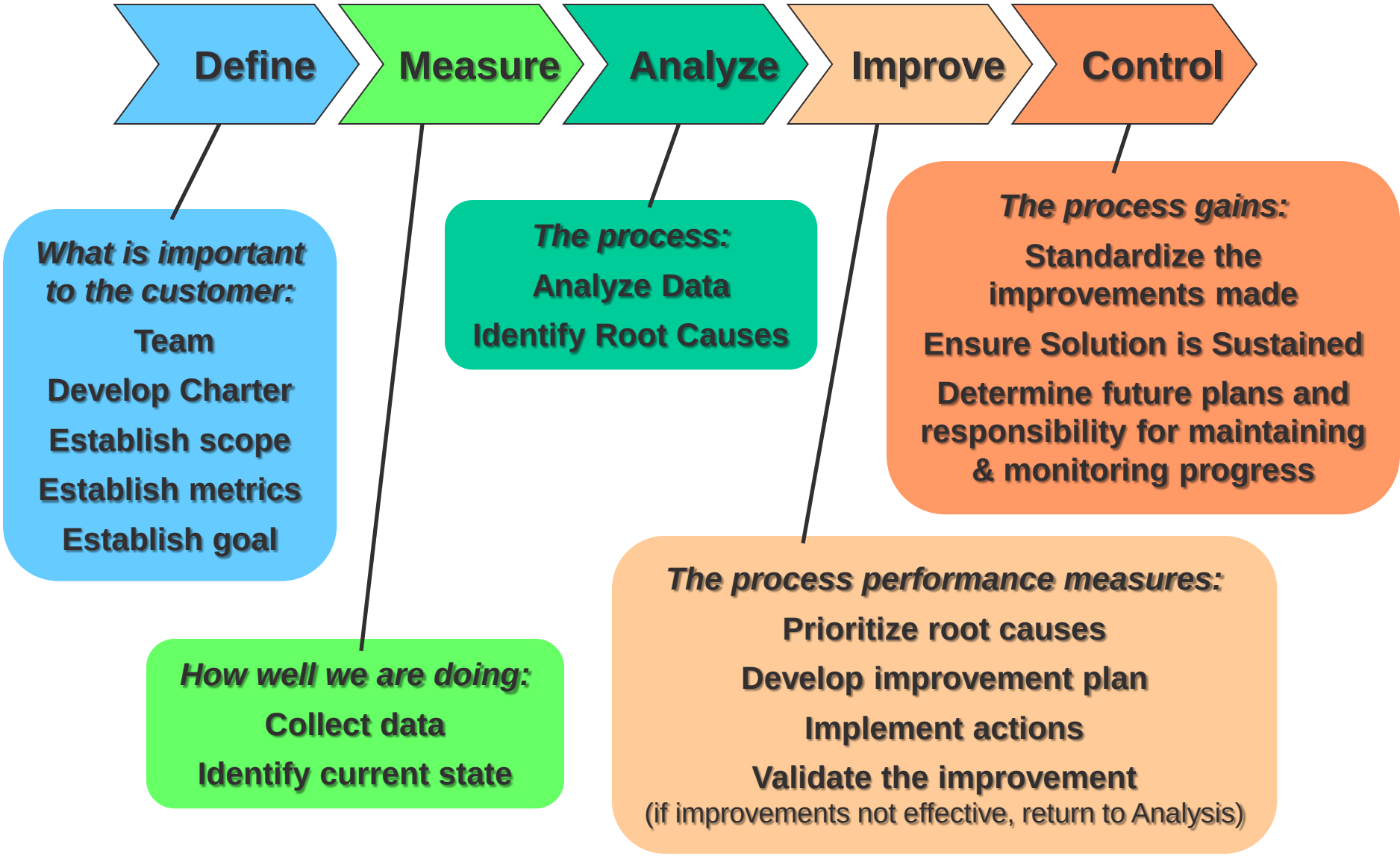
"TIMWOODS"

- **T**ransportation
- **I**nventory
- **M**otion/movement
- **W**aiting
- **O**ver-producing
- **O**ver-processing
- **D**efects
- **S**kills

Types of Waste in Processes - “TIM WOODS”

Type of Waste	What is it?	Examples
Transportation	Movement of items more than required, resulting in wasted efforts and energy, and adding to cost	• Movement of files and documents from one location to another • Excessive e-mail attachments • Multiple hand-offs between people or departments
Inventory	Holding inventory (material and information) more than required	• Files and documents waiting to be processed • More information collected on a form than required
Motion	Movement of people that does not add value	• Looking for data and information • Movement of people to and from filing cabinets, print, fax and copy machines
Waiting	Employees and customers waiting	• Employee waiting for a status of their visa case • Queue of requisitions to be approved • System downtime
Over-production	Processing too soon or more than required (amount)	• Information sent automatically even when not required • Printing documents before they are required • Processing items before they are required by the next person in the process
Over-processing	Processing more than necessary; when a simple approach would have been adequate	• Too many questions for a guest registration • Same data required in number of places in an application form • Follow-ups and costs associated with coordination • Too many approvals • Multiple reports
Defects	Errors, mistakes and rework	• Rejections of applications • Incorrect data entry • Incorrect date on a visitor notification form
Skills (Under-utilized People)	Employees not utilized to their potential	• Limited authority and responsibility • Person on a job that does not coincide with their skill level

A Powerful Methodology: *DMAIC*



Behavioral Change

Lean Six Sigma Challenges Us to:

- Think Differently
- Work Differently
- Ask Questions and Challenge the Status Quo
  - "That's the way we've always done it"
  - "It's a DOE requirement"
- **Make Decisions With Facts and Data**
- Use New Principles, Tools and Methodologies
- **Work together across the organizations**

"Early-on, when culture and change compete, culture wins."
- Tom Quan, GlaxoSmithKline

Lessons Learned –
The People Side of Improvement Initiatives

- **Improvement is about people** – change comes through people, and we don't want to make changes/ improvements that negatively impact employees
- **Accountability** - Team members participation reflected in their performance appraisal
- **Opportunity** - Want improvement ideas to come from both the top-down (senior mgmt.) and bottom-up (employees)

Thank you.

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