



Implementing the CMMI[®] in a Six Sigma World

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Agenda

- Where Do These Initiatives Get Sponsored?
- Six Sigma Overview
- Components of Six Sigma / CMMI implementation – Is it collaborative or competitive?



Context

- Who typically sponsors quality programs?
 - CMMI – CIO
 - ITIL – CIO / IT Operations VP
 - Outsourcing – CFO
 - ISO / Six Sigma – Business (CEO / COO)



Context-2

- Can these programs successfully co-exist?
- The key to the answer is, “what is the goal of the quality program?”
 - The program itself?
 - Better efficiency?
 - More effective business?
 - Something else?
- The underlying business objective is often
 - Misunderstood by the people responsible for the program’s implementation
 - Not appropriately reflected in the organization’s recognition/reward system



Six Sigma Overview

- Six Sigma focuses on:
 - Executive sponsorship
 - Driving out defects
 - Six Sigma = 3.4 defects per million opportunities
 - Measurable improvements



Six Sigma Overview-2

- Uses the DMAIC process to improve existing processes
 - **Define** what plans must be in place to realize improvement
 - **Measure** the business systems that support the plans
 - **Analyze** the gaps in system performance benchmarks
 - **Improve** system elements to achieve performance goals
 - **Control** system-level characteristics that are critical to value



Six Sigma Overview-3

- Uses the DFSS (Design For Six Sigma) process to implement new processes
 - Define robust configurations
 - Minimize absolute complexity and influence on system performance

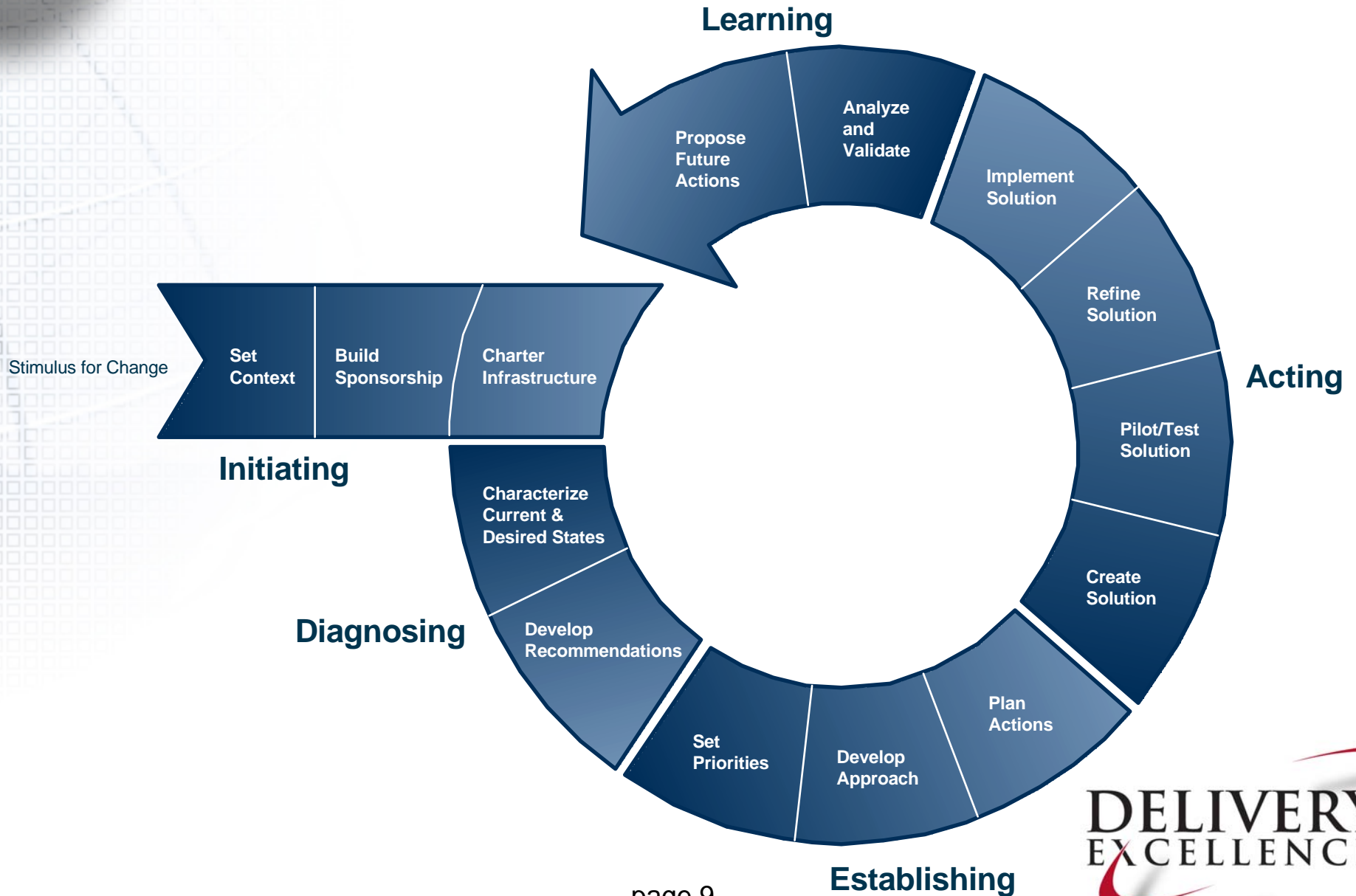


Six Sigma Overview-4

- Subset of Six Sigma roles:
 - **Executive Management** – Sponsors (inspire, own, fund and drive)
 - **Champion** – Responsible for the development and execution of Six Sigma program
 - **Master Black Belts** – Six Sigma architects responsible for overall design, training and implementation
 - **Black Belt** – Six Sigma experts responsible for developing and leading improvement teams
 - **Process Owners** – Line managers ensuring improvements are captured and implemented
 - **Green Belts** – Extensions of Black Belt – typically work on improvement teams
 - **Project Team Members** – Support Six Sigma

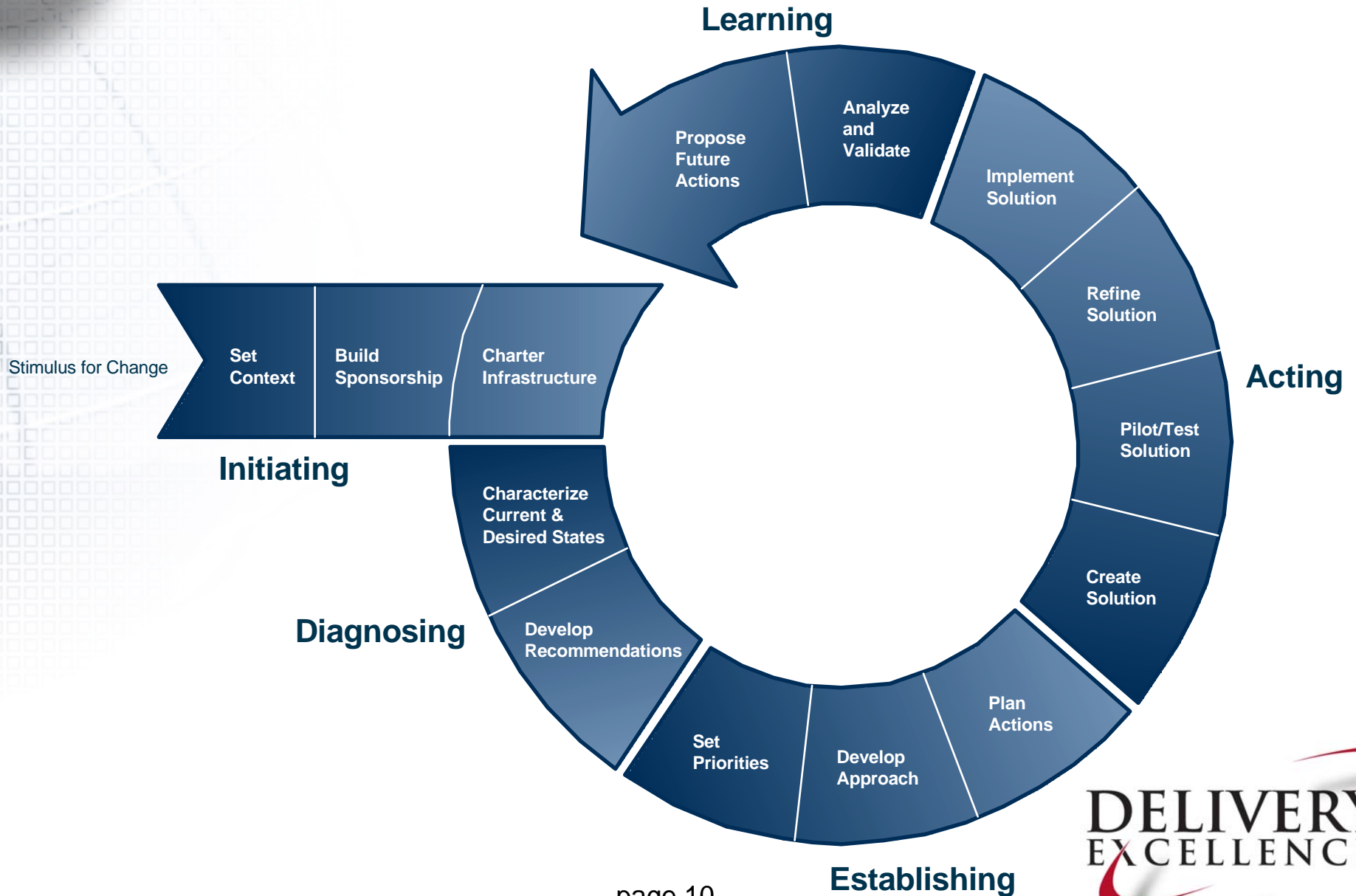


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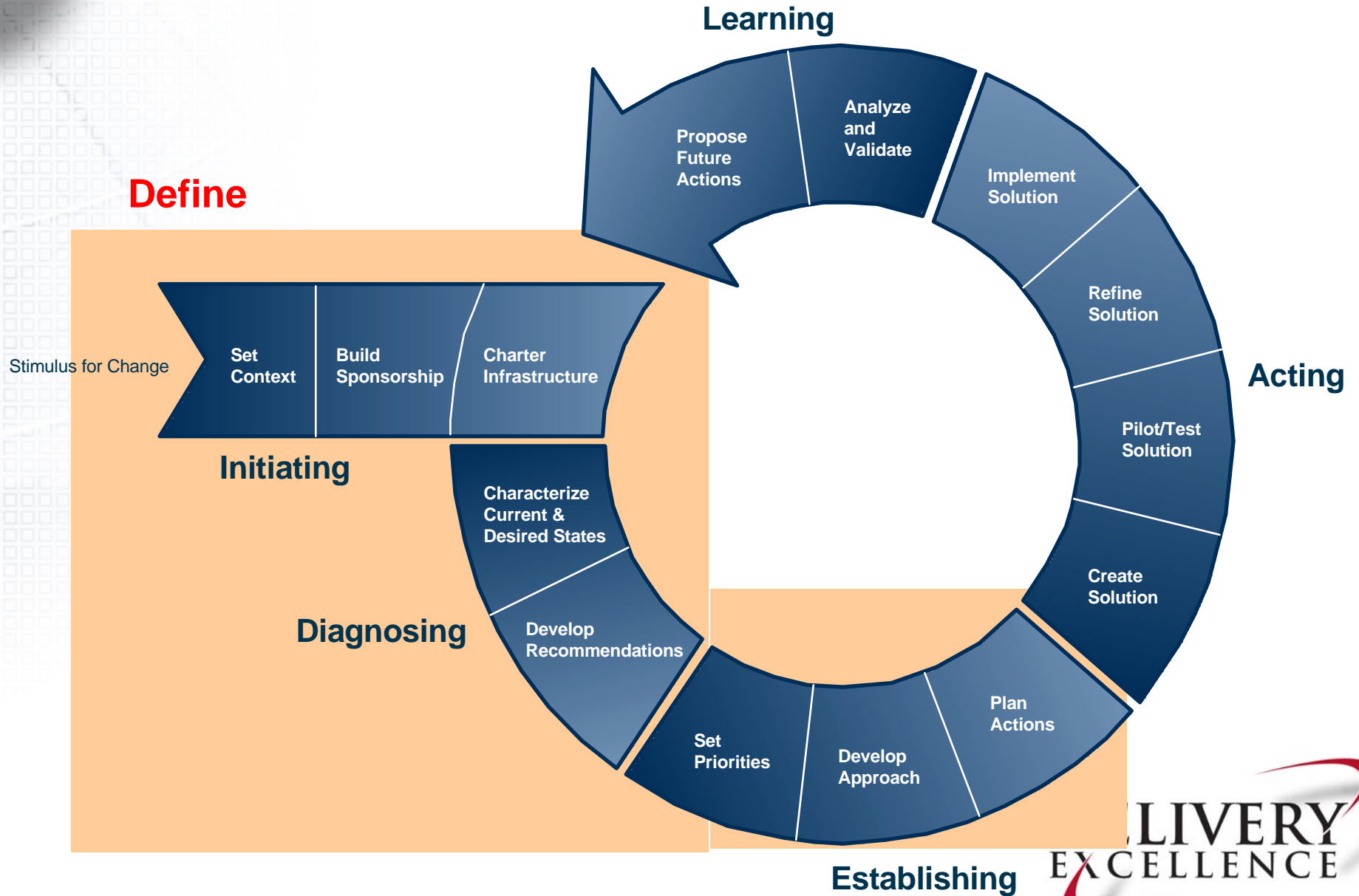


IDEAL / DFSS



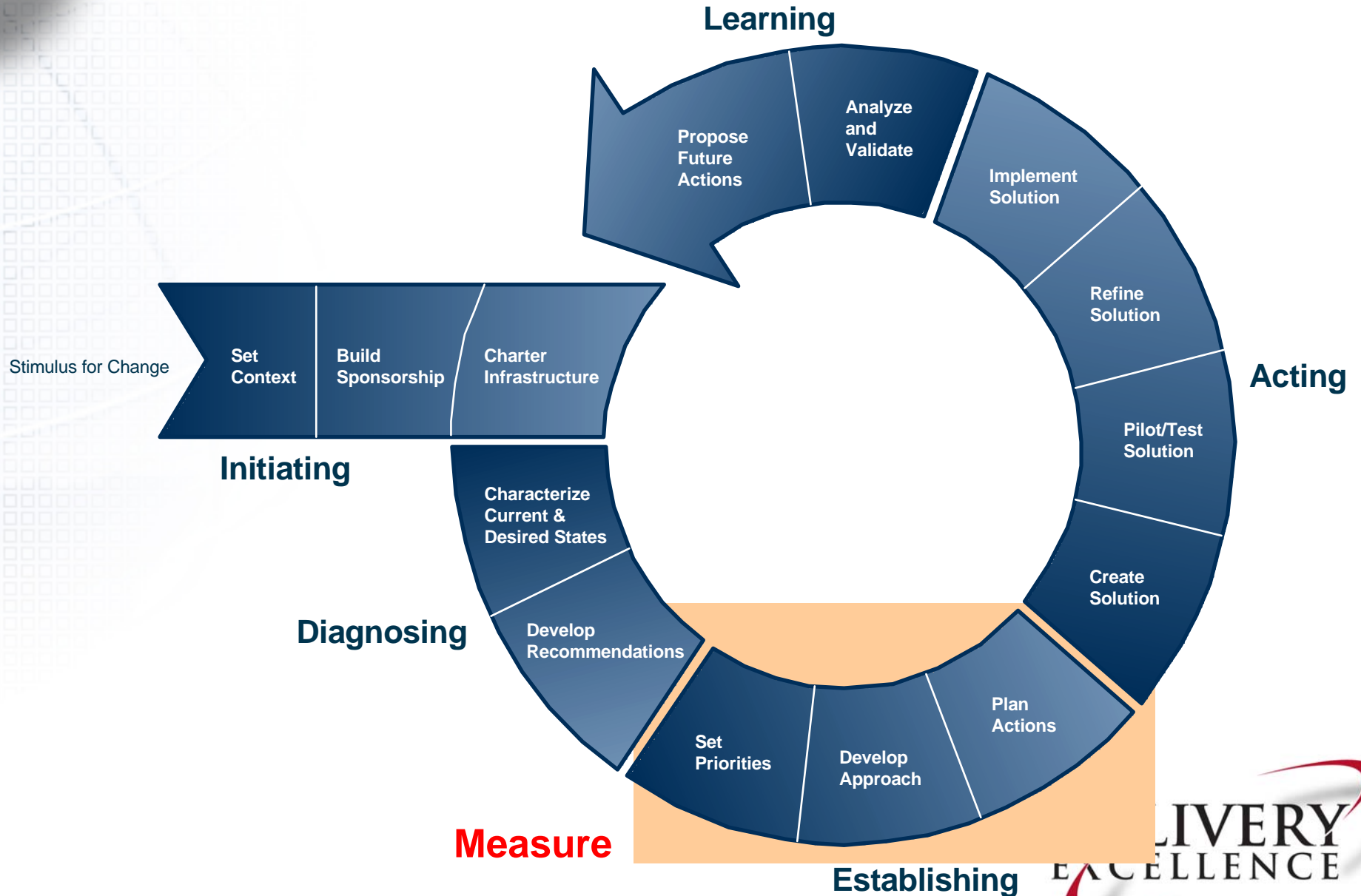


IDEAL / DMAIC



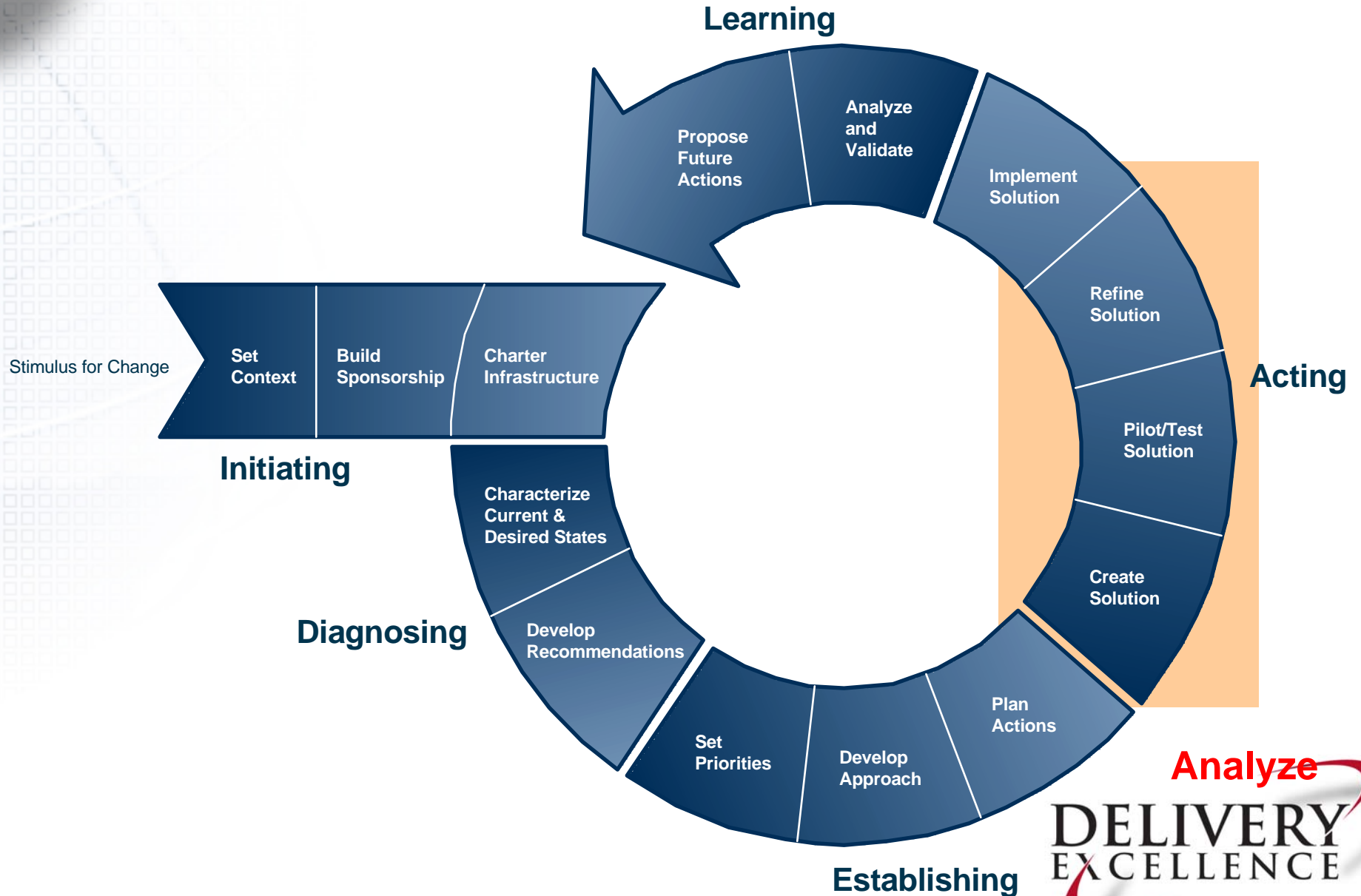


IDEAL / DMAIC



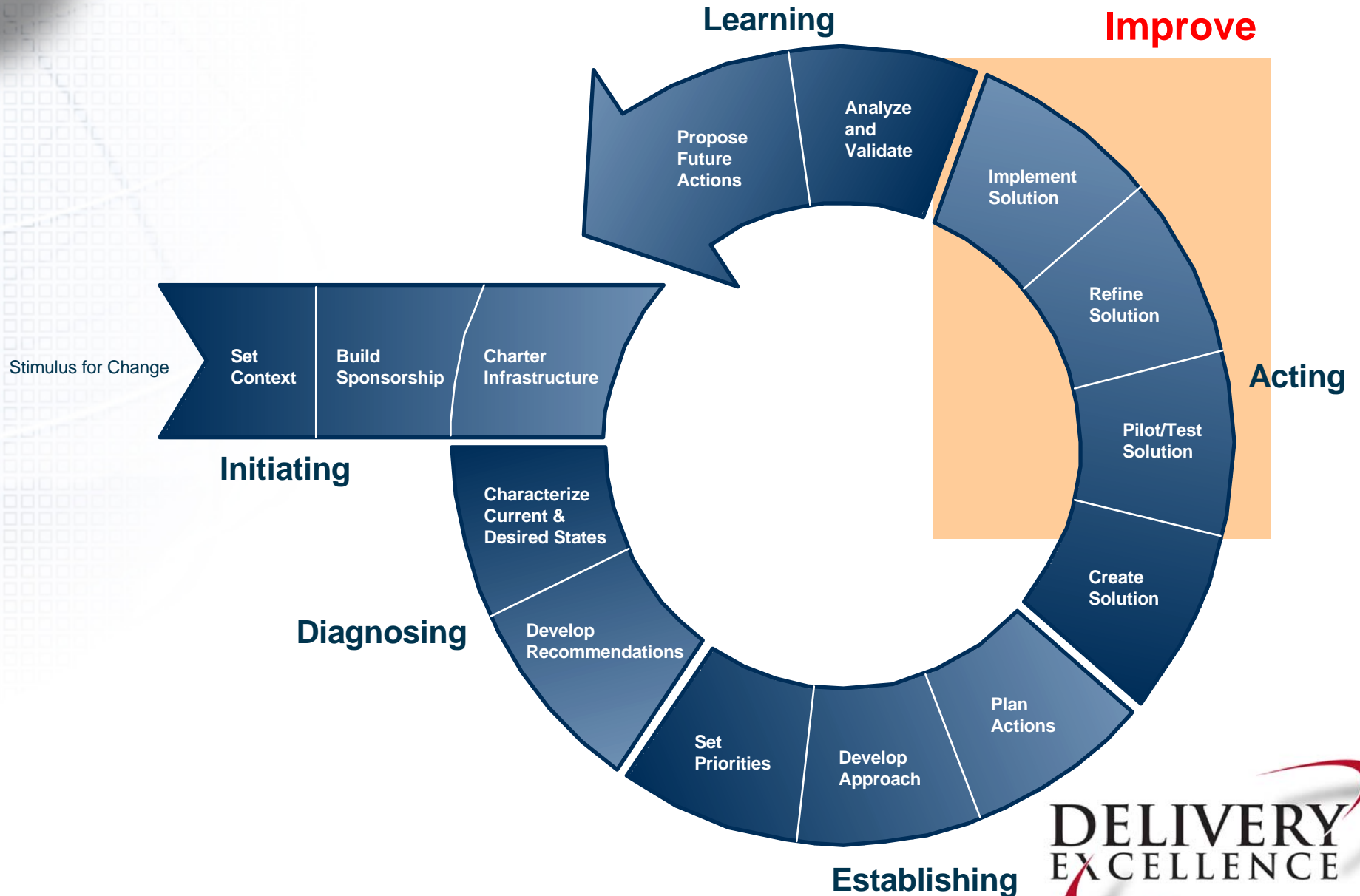


IDEAL / DMAIC



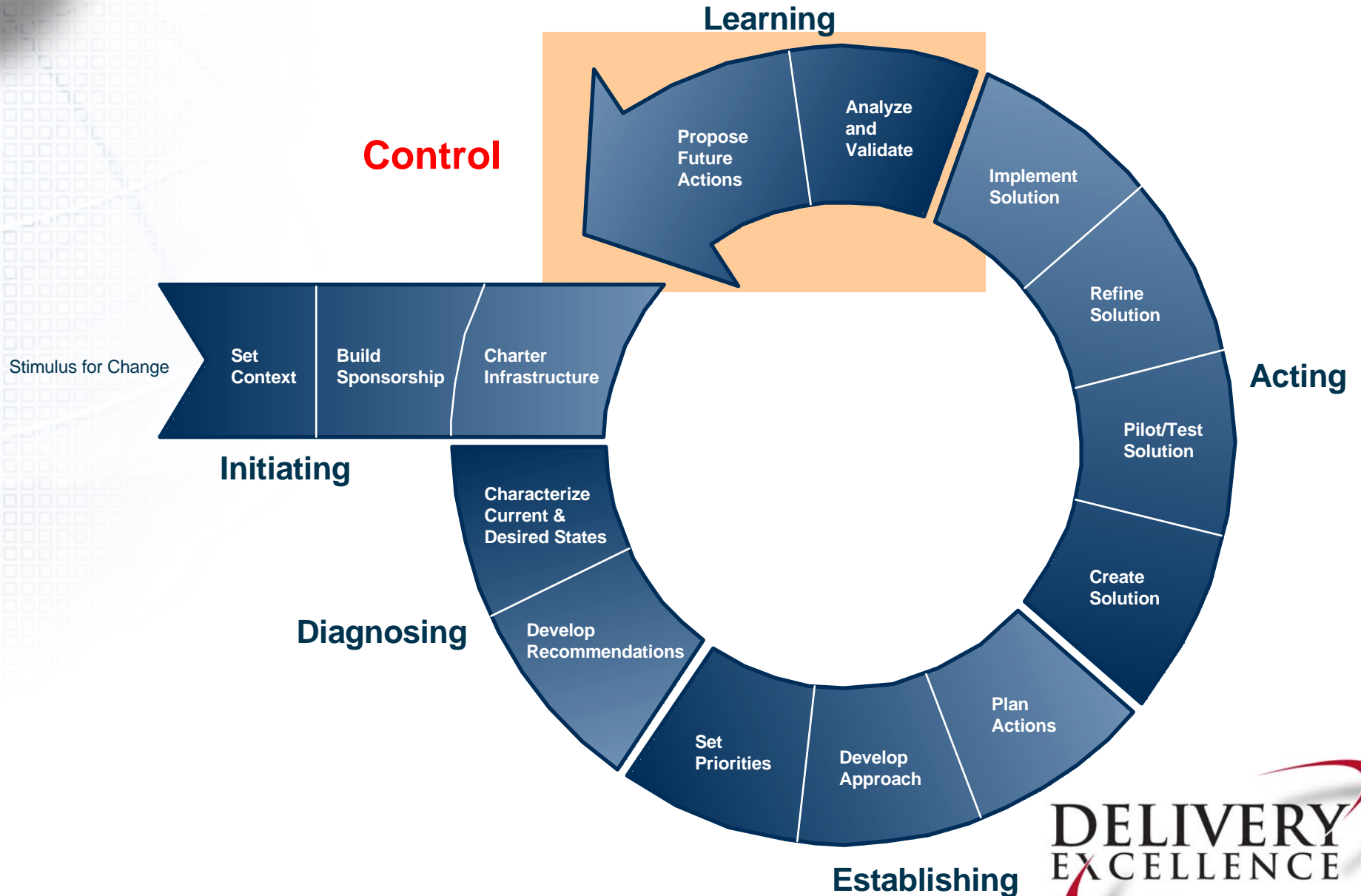


IDEAL / DMAIC





IDEAL / DMAIC





Collaborative Components

- Many of the Process Areas (PAs) of the CMMI are required capabilities for Six Sigma, e.g.
- MA – Measurement and Analysis
 - Develop and sustain a measurement capability that is used to support management information needs
- DAR – Decision Analysis and Resolution
 - Analyze possible decisions using a formal evaluation process that evaluates identified alternatives against established criteria.
- CAR – Causal Analysis and Resolution
 - Identify causes of defects and other problems and take action to prevent them from occurring in the future.
- *Others*



Collaborative Components

- Many of the Process Areas (PAs) of the CMMI directly support Six Sigma, e.g.
- *PP/PMC – Project Planning / Project Monitor and Control*
- *OPF/OPD – Organizational Process Focus / Organization Process Definition*
- *CM – Configuration Management*
- *RSKM – Risk Management*
- *Others*



Collaborative Roles

- **Executive Management** – Sponsors
- **Champion** – Responsible for the development and execution
- **Master Black Belts / Engineering Process Group (EPG)** – Architects responsible for overall design, training and implementation
- **Black Belt / EPG** – Experts responsible for developing and leading improvement teams

SIX SIGMA ROLE

CMMI ROLE

JOINT ROLE





Collaborative Roles-2

- **Process Owners** – Line managers ensuring improvements are captured and implemented
- **Green Belts / Process Improvement Teams** – Extensions of Black Belt / Engineering Process Group – typically work on improvement teams
- **Project Team Members** – Support Six Sigma / CMMI

SIX SIGMA ROLE

CMMI ROLE

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Observation

- If a Six Sigma culture already exists within the organization, it may be easier to implement the Continuous Representation than the Staged.
- Six Sigma focuses on driving improvements based upon business need and measurements. This is similar in nature to how the Continuous Representation should be implemented.
- The Staged representation relies more upon the CMMI model to drive the priority for the next improvement opportunity.



Concluding Remarks

- Is implementing the CMMI within a Six Sigma culture collaborative or competitive?
- Use Six Sigma and CMMI and ??? to help focus on the business goals
- When the goal is the program, the environment quickly becomes competitive and creates a win-lose situation
- Sometimes external intervention needs to take place with executive management to put the appropriate perspective on these programs to prevent a win-lose situation or when one already exists



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