“There is more value created with overall alignment than localized excellence.”

Donald G. Reinertsen
The Principles of Product Development
FLOW
Second Generation Lean Product Development

Donald G. Reinertsen
“This book is still missing one chapter. It is the chapter you will be writing, the one on implementation.”

Donald G. Reinertsen
Agile Software Requirements
Lean Requirements Practices for Teams, Programs, and the Enterprise
Dean Leffingwell
Foreword by Don Reinfersen

Dean Leffingwell
SAFe Core Values

Alignment

Transparency

Program Execution

Code Quality
System / Organization

Input
Potential Value Identified

Process / Work Flow
Converting Potential Value into Real Value

Output
Real Value Delivered
value stream
The Goal: Value

Sustainable shortest lead time. Best quality and value to people and society. Most customer delight, lowest cost, high morale, safety.

Pillar 1: Respect for People
- Your customer is whoever consumes your work
  - Don’t trouble them
  - Don’t overload them
  - Don’t make them wait
  - Don’t impose wishful thinking
  - Don’t force people to do wasteful work
  - Equip your teams with problem-solving tools
  - Build partnerships based on trust
  - Develop people and teams

Pillar 2: Kaizen
- A constant sense of danger
- Steady, improvements
- Consider data carefully, then implement change rapidly
- Reflect at key milestones
- Use tools like retrospectives, root cause analysis, and value stream mapping
- Protect the knowledge base by developing stable personnel and careful succession systems

Product Development Flow
1. Take an economic view
2. Actively manage queues
3. Understand/exploit variability
4. Reduce batch size
5. Apply WIP Constraints
6. Flow with uncertainty Cadence and Synchronization
7. Apply fast feedback
8. Decentralize control

Foundation: Management Support
Management applies and teaches lean thinking, bases decisions on this long-term philosophy
Eight Principles of Lean|Agile Leadership

Adapted from: Toyota Production System (2004)
Reinertsen (2009)
Larman and Vodde (2009)
Iron Triangle Paradigm Shift

**Waterfall**
Plan-driven approach creates cost and time estimates.

**Agile**
Value-driven approach creates feature estimates.
Waterfall
Agile
Agile / Iterative & Incremental

TIME

Value  Risk
Agile / Iterative & Incremental

- ENERGY
- EFFORT
- TIME

Plan Driven / Waterfall

- ENERGY
- EFFORT
- TIME
Kanban

Input → Execute / Continuous Flow → Output

Work In Process Limits / Explicit Workflow and Policies
<table>
<thead>
<tr>
<th>Backlog</th>
<th>To Do</th>
<th>Process State</th>
<th>Process State</th>
<th>Process State</th>
<th>Done</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

**Process**

- To Do
- Process State
- Process State
- Process State
- Done

**State**

- Process
- Process
- Process
- Process

**Input**

- Work In Process Limits / Explicit Workflow and Policies

**Execute / Timeboxed**

- Pan

**Output**

- Inspect & Adapt

**Repeat**
Scaled Agile Framework® Big Picture

Portfolio VISION

Business Epics

Architectural Epics

Epics span releases

Architecture evolves continuously

Agile Release Train delivers solutions

Deliver on Demand

Features fit in releases

Architectural Runway

Develop on Cadence

Stories fit in iterations

Spikes, Refactors, Other

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“It is essential to understand the two most expensive and wasteful software defects:

1) Development that starts with a bad idea.

2) Development that starts with a poorly prioritized idea.”

Tony Wahmhoff

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