


**LEAN PRODUCT & PROCESS
DEVELOPMENT EXCHANGE INC.**

LPPD and Agile, Hardware / Software Interaction – Workshop

1



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Active and interested learners of
ways of improving faster and
increasing customer value



Geoff Neiley
Director Continuous Product
Improvement and CM
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2


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The Lean Product and Process Development Exchange, Inc. is a nonprofit organization created to foster opportunities to grow and share the knowledge, expertise and experiences that help organizations use lean product development to dramatically improve product development performance.



[LPPDE North America 2023 Ann Arbor - LPPDE](#)



7 September
19 October
2 November
14 December (12am-4pm)

LPPDE Europe 2024 in April

How to increase the speed of innovation
April 2024

Send ideas to:

Chair: Peter Palmér
peter.palmer@scania.com



More information on: www.lppde.org
and LinkedIn: The Science of Improving Innovation <https://www.linkedin.com/company/lppde> <https://www.linkedin.com/groups/1898827/>

3

Parent Company: OSI Systems, Inc.

Leading Provider of Security, Healthcare, and Optoelectronics Solutions



OSI SYSTEMS, INC.

Headquartered in Hawthorne, CA
NASDAQ-listed "OSIS"
Approximately 6,200 employees
Revenues in FY 2022: \$1.18 Billion

SECURITY

Non-Intrusive Inspection
Products, Technology, & Solutions



HEALTHCARE

Medical Monitoring &
Anesthesia Systems



SPACE LABS
HEALTHCARE

OPTOELECTRONICS

Optoelectronics Design &
Contract Manufacturing

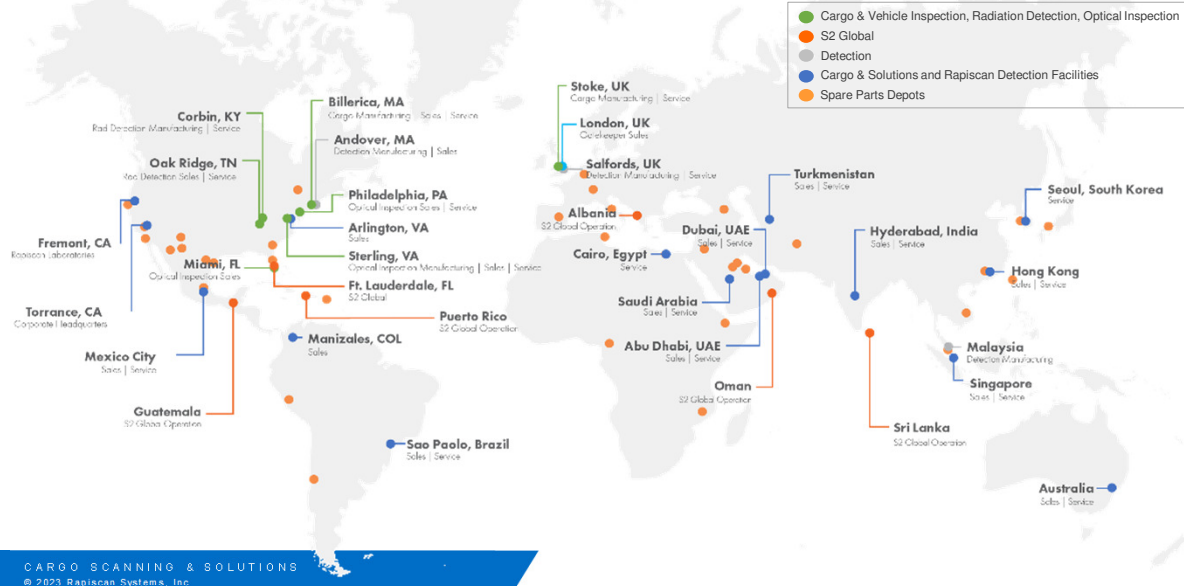


CARGO SCANNING & SOLUTIONS
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4

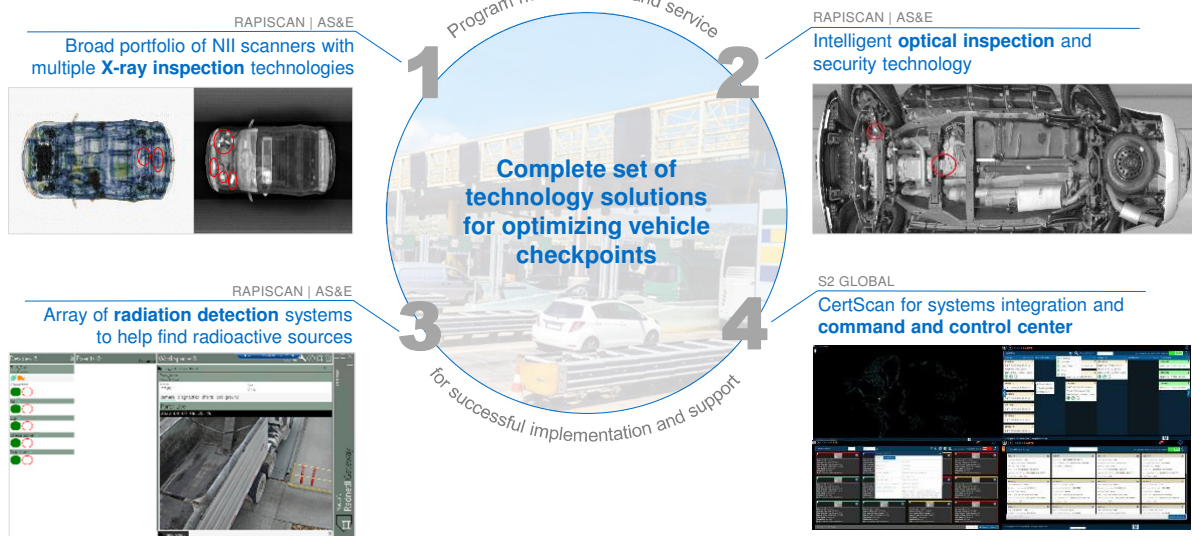
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Select Global Locations OSI Systems' Family of Security Companies

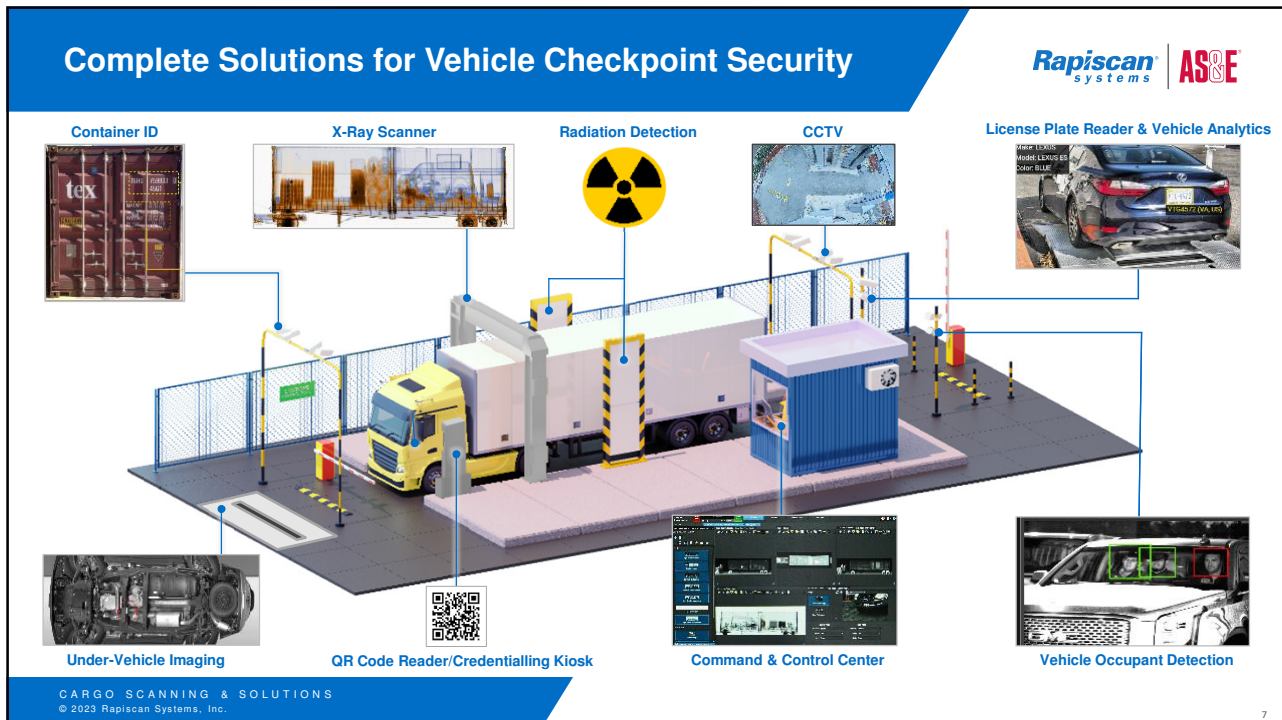


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Global Security Technology Provider for Vehicle Checkpoints



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7

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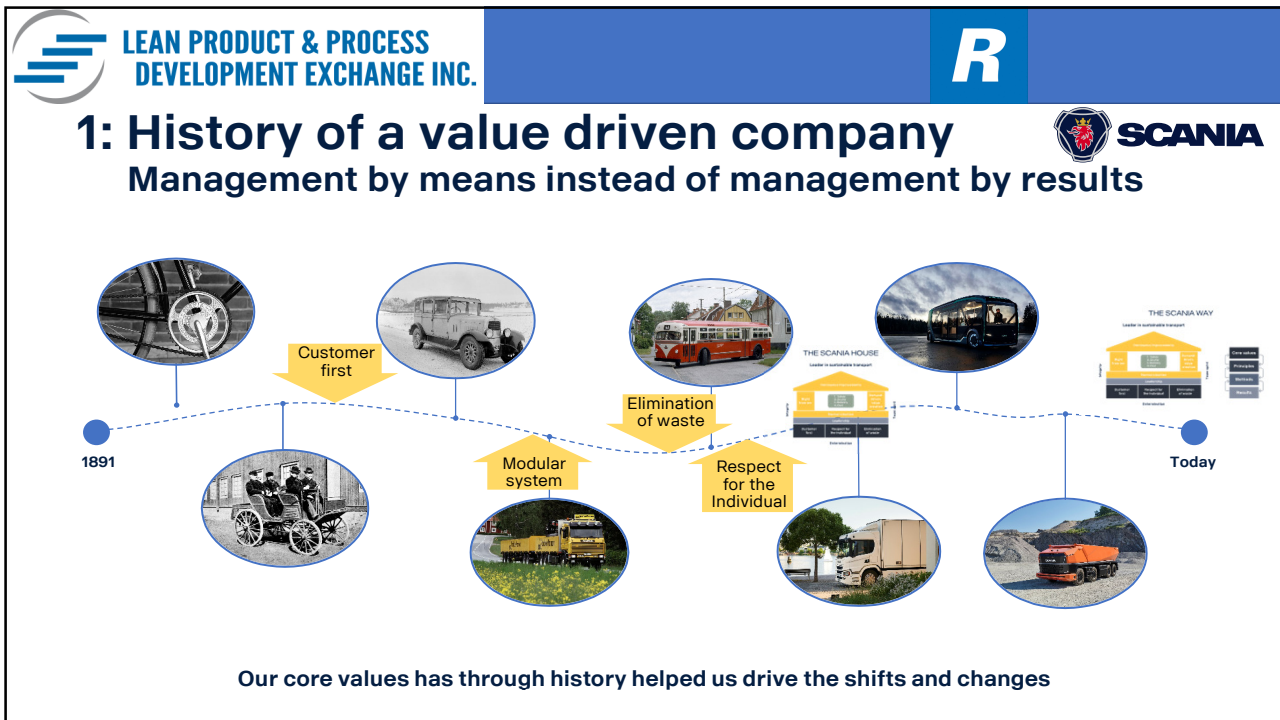
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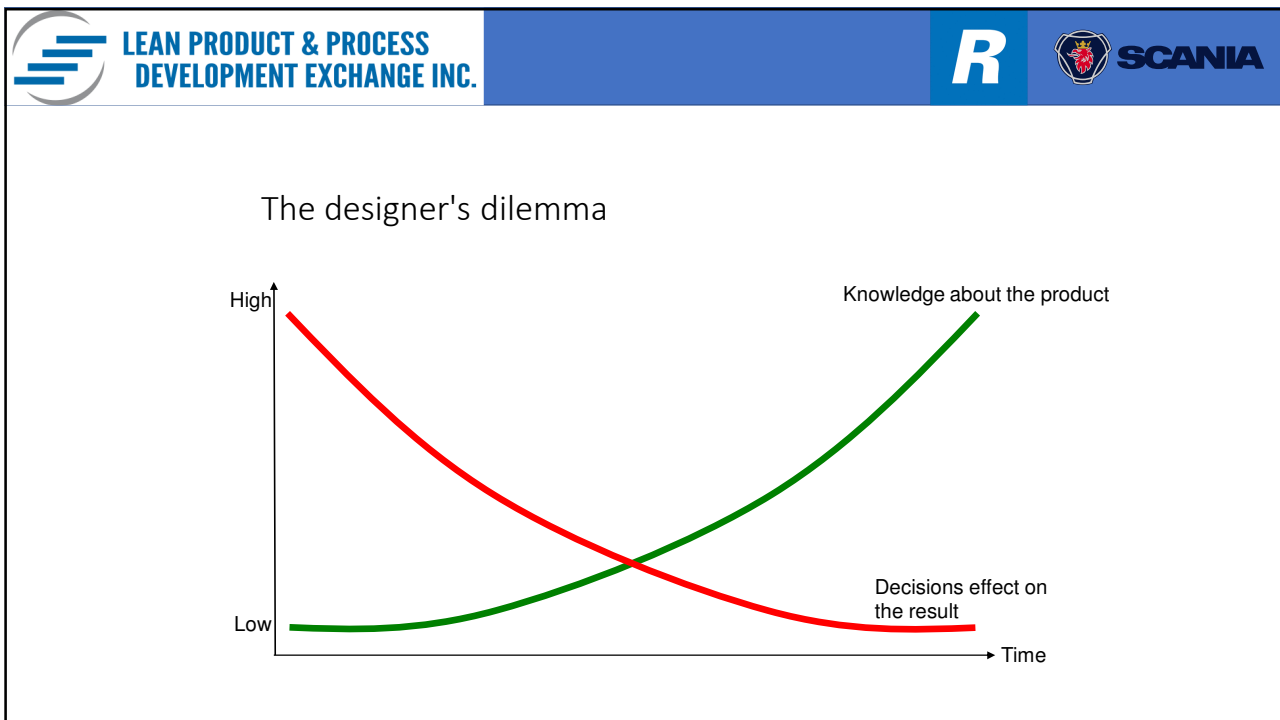
Scania Technical Centre
– everything in one place

Three integrated businesses
Heavy vehicles, service & customer financing

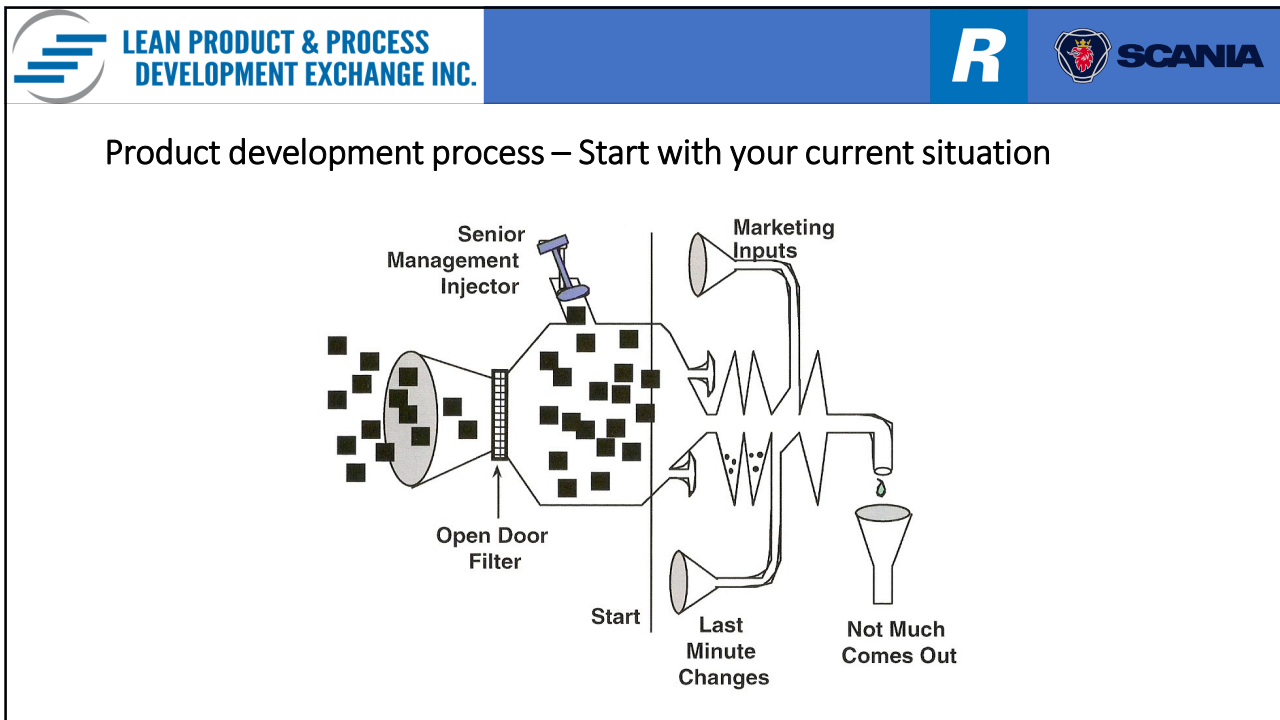
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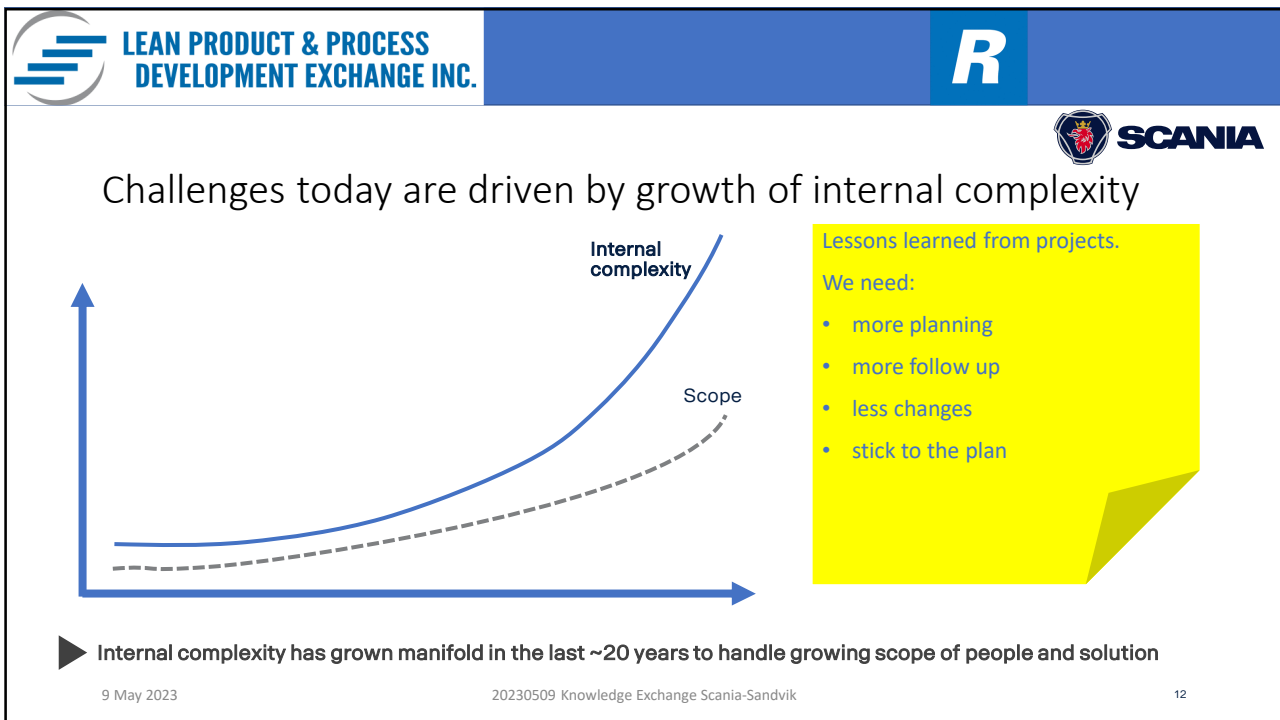
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10



11



12

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3: Changes in the environment

Cynefin solution domains

Handle uncertainty in the complex domain

Standish Group Chaos Report

Chaos report – our reality
50% hit-rate

Disruptive innovation

The Apple Watch as an example

9 May 2023
20230509 Knowledge Exchange Scania-Sandvik
13

13

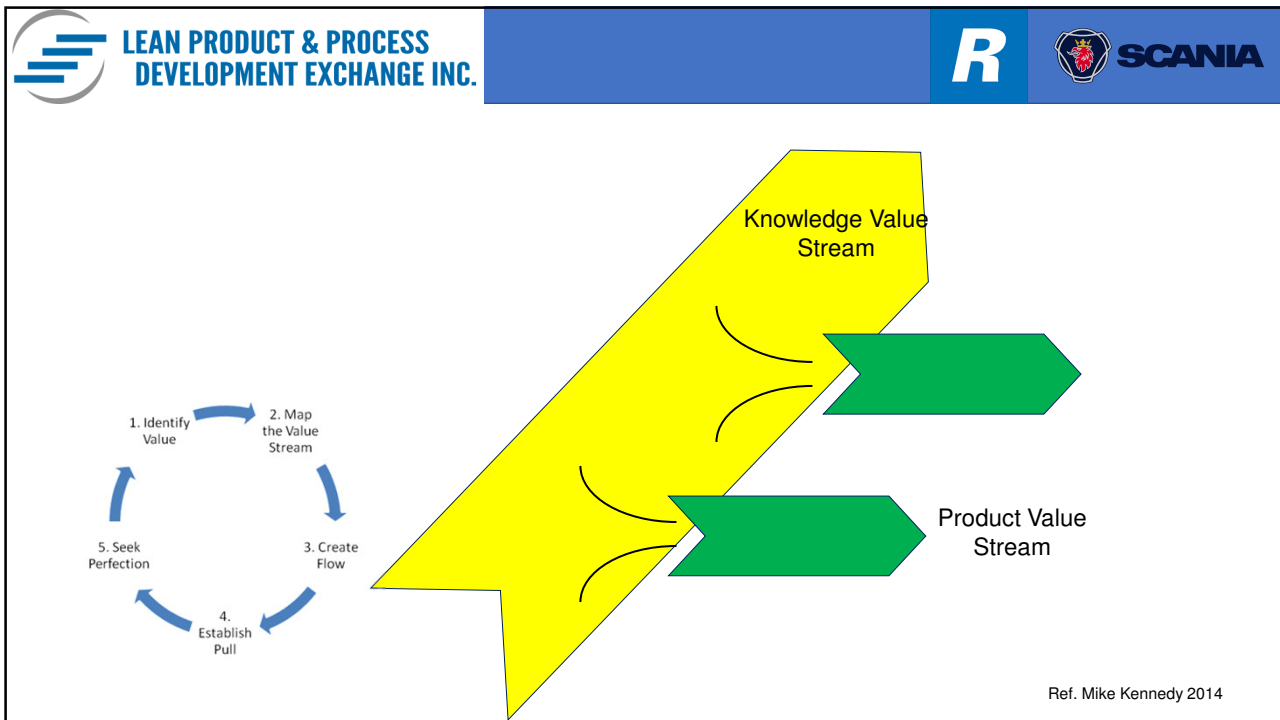
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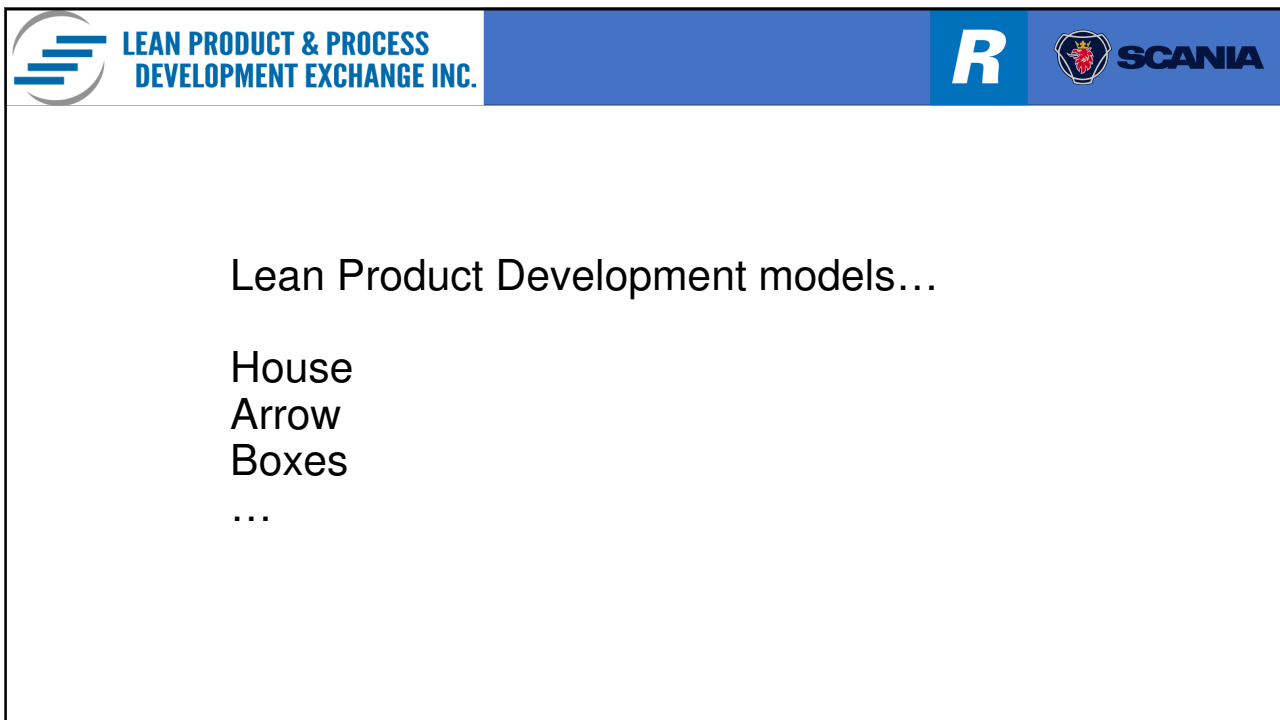
Different schools

- Assure that new products are adapted to Lean Manufacturing
- Apply methods for Lean Manufacturing on PD
- Toyota Product Development System (everything Toyota does is correct and the best)
- Principle based view (new methods are checked against lean product development principles if they are applicable)
- Problem based view (new methods are introduced if needed)
- Good methods (which already exist) are called lean to empathize them more


14



15




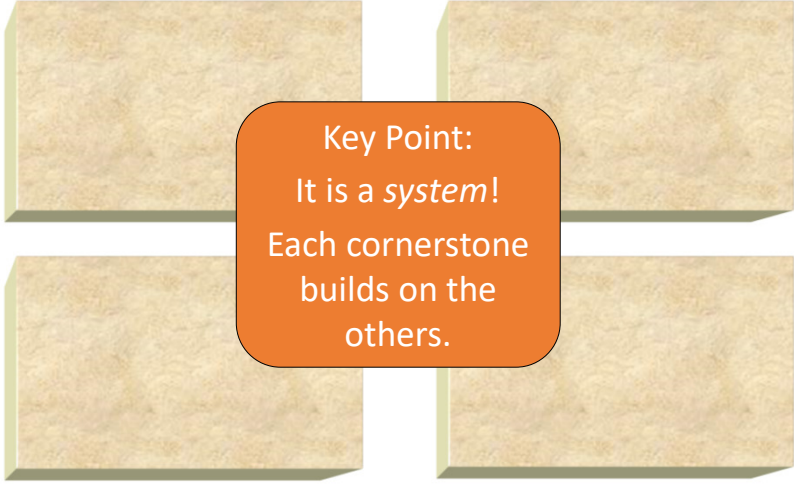
16




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17




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Lean Development Principles

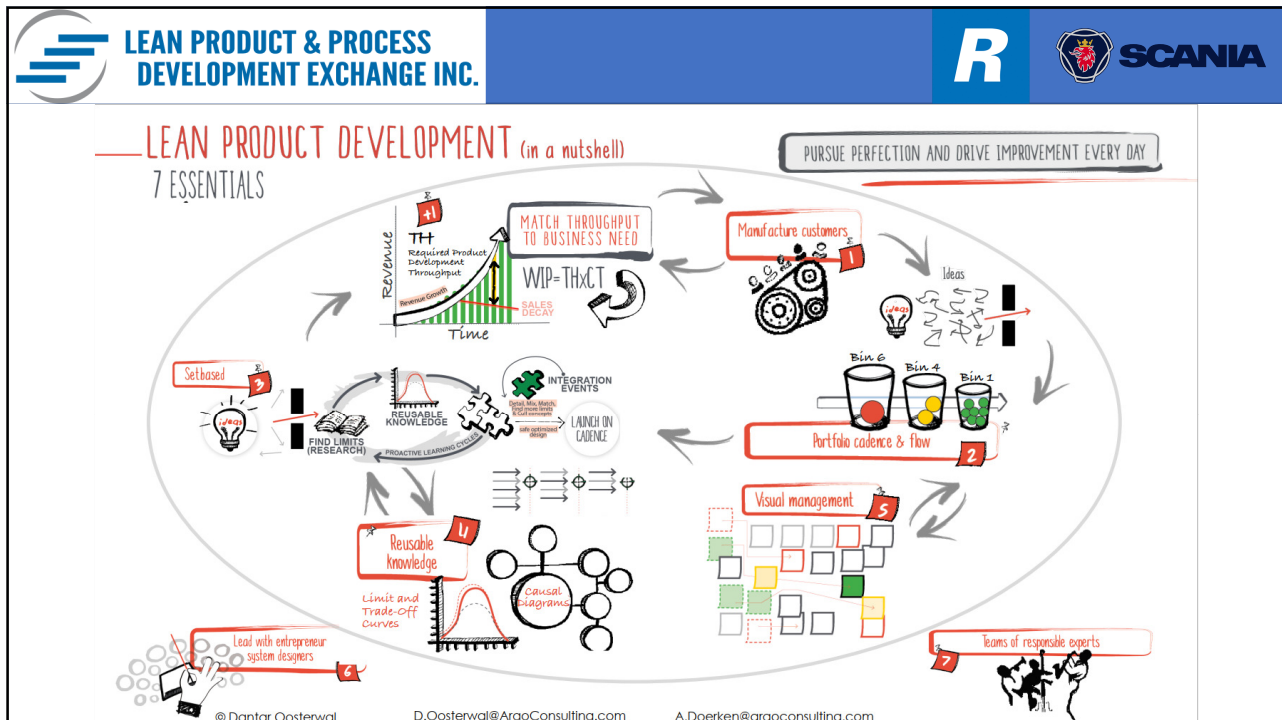
- Focus on creating usable knowledge
 - Eliminate waste
 - **Synthesize knowledge into trade-off curve pages**
- Lead with entrepreneur system designers
- Create teams of responsible experts
- Practice set-based innovation
- Create flow
- Visual Management and Planning



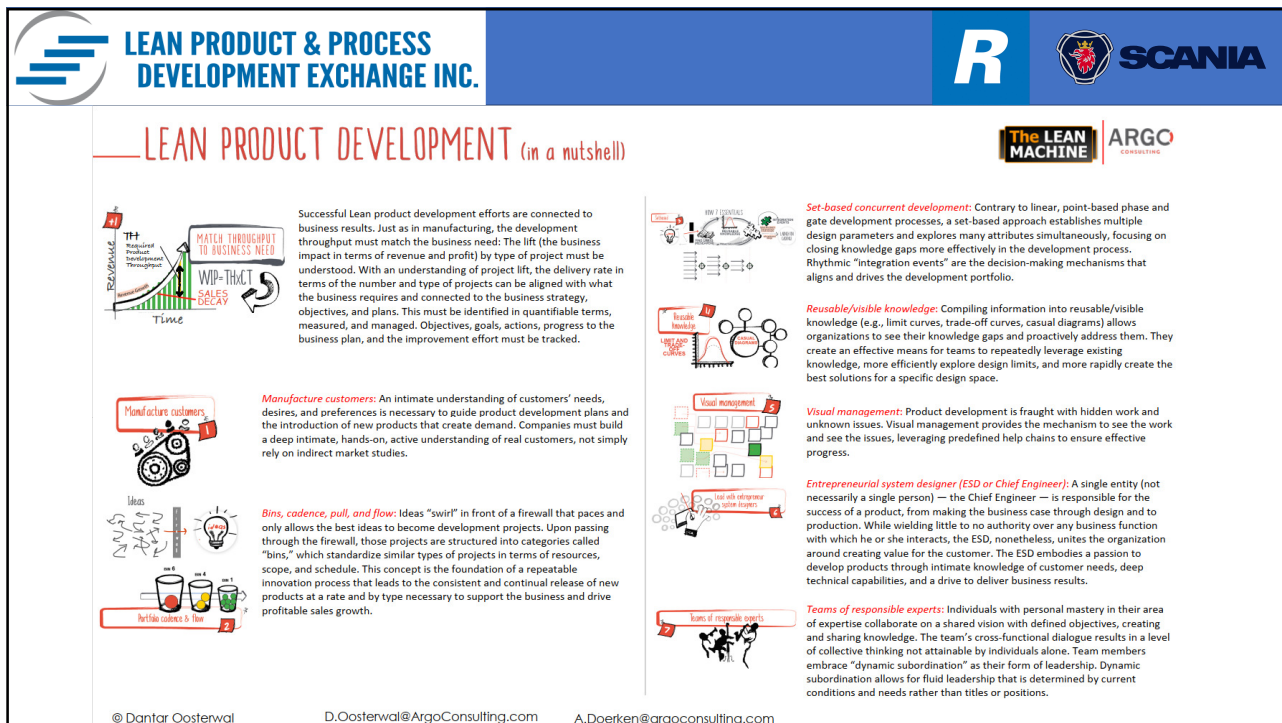


Source: Allen Ward

18



19



20



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Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
~~Through this work we have come to value:~~

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation


Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockburn	Ron Jeffries	Jeff Sutherland
Ward Cunningham	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	


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21



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Principles behind the Agile Manifesto

We follow these principles:

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
- Business people and developers must work together daily throughout the project.
- Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
- The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
- Working software is the primary measure of progress.
- Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
- Continuous attention to technical excellence and good design enhances agility.
- Simplicity--the art of maximizing the amount of work not done--is essential.
- The best architectures, requirements, and designs emerge from self-organizing teams.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

[Return to Manifesto](#)

22



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Which is the best method / tool to use?



23



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Go & See




24




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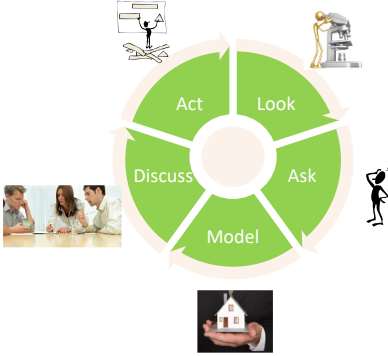


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LAMDA – A Knowledge creating cycle



Ref. Allen Ward




25



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SAFe Framework

SAFe 6.0

- Organizational Agility
- Lean Portfolio Management
- Enterprise Solution Delivery
- Agile Product Delivery
- Team and Technical Agility
- Lean-Agile Leadership

Select SAFe configuration
 OVERVIEW | **ESSENTIAL** | LARGE SOLUTION | PORTFOLIO | FULL

BUSINESS AGILITY

Portfolio Flow

Strategic Themes → Portfolio Vision → Portfolio Backlog → Lean Budgets → Guardrails → Development Value Streams

Solution Train Flow

Variable Fixed Business Model → Compliance MBSE Set-Based → Solution Train Backlog → Solution Demo → Pre-Plan → Coordinate and Deliver → Solution

ART Flow

Customer Centricity → Lean UX → ART Backlog → Continuous Exploration → Continuous Integration → Continuous Deployment → Release on Demand

Team Flow

SAFe Scrum → Built-in Quality → Team Backlogs → PI Objectives → Architectural Runway

Value Stream Management

Big Data → Epic → Epic → Epic → Solutions → KPIs


Continuous Delivery Pipeline

Continuous Exploration → Continuous Integration → Continuous Deployment → Release on Demand

Essential SAFe


Agile Release Train → Solution Context → Cloud → DevOps → Measure & Grow

26



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SAFe principles for scaling lean-agile

- #1 Take an economic view
- #2 Apply systems thinking
- #3 Assume variability; preserve options
- #4 Build incrementally with fast, integrated learning cycles
- #5 Base milestones on objective evaluation of working systems
- #6 Make value flow without interruptions
- #7 Apply cadence, synchronize with cross-domain planning
- #8 Unlock the intrinsic motivation of knowledge workers
- #9 Decentralize decision-making
- #10 Organize around value

TRATON


<https://www.scaledagileframework.com/>


27



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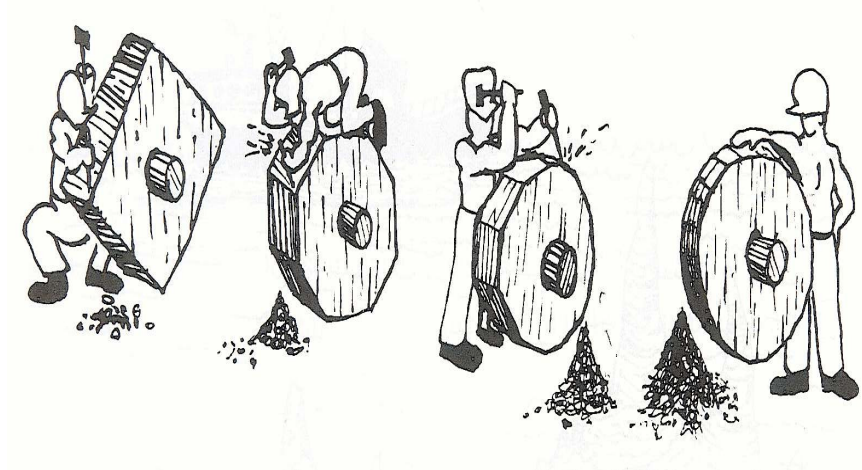




Product Development

28

Continuous Improvements



TRATON
8/20-2023

TRATON <Training name>

29



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*If you keep on doing
what you've always done,
you will get the same result
you've always got.*

30



31