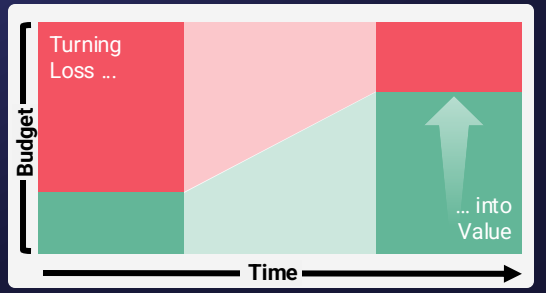
seerene
serenity in software production



DIGITAL RESPONSIBILITY

How Executives Stay Empowered when Software Rises to the Top Agenda

Dr. Johannes Bohnet
CEO & Founder of Seerene

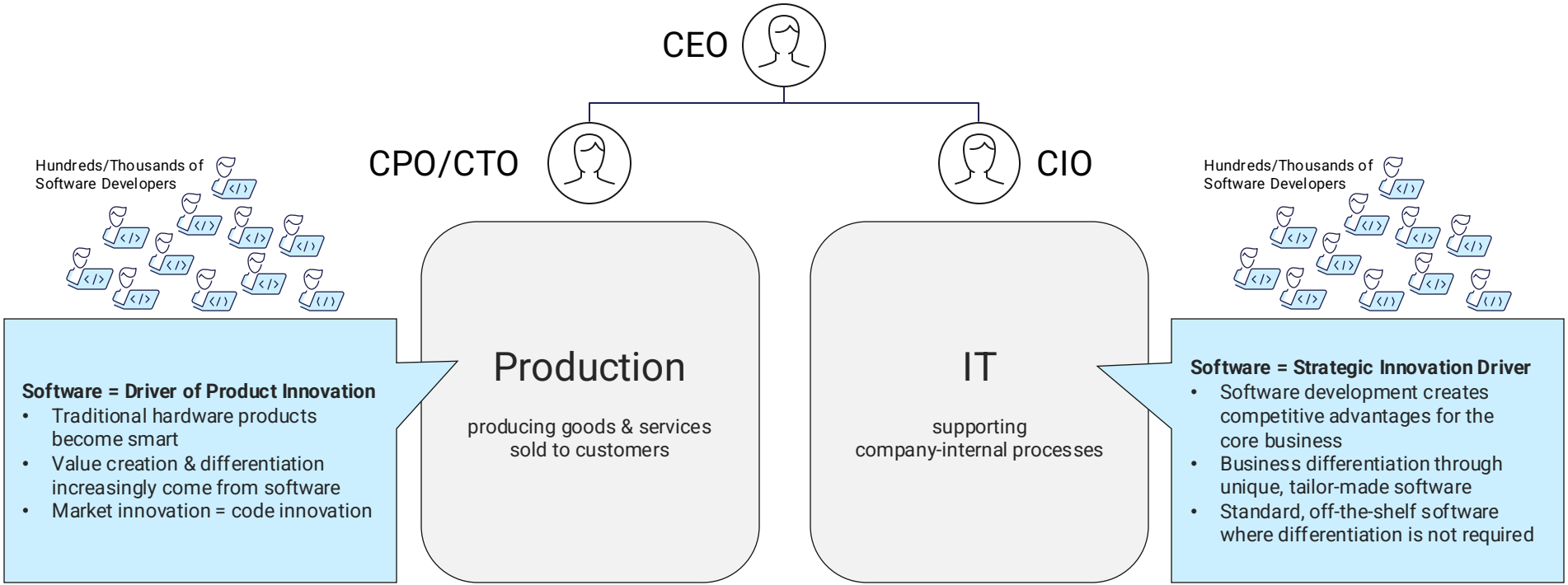
September 24th, 2025 – Fürstlich Drehna
Software as Management Task
Klausurtagung Konzernstrategie

The Trend Persists…

Tailor-made software remains a key driver of business innovation and success

Software Development Has Become a Strategic Corporate Function

Hundreds/thousands of software developers → strategically determine the fate of business success.
→ are a significant and growing cost factor.



KPI-Driven Principles for Managing Large Organizations

KPI Lessons from Sales Organizations

1. Revenue as the Top-Line KPI
- Serves the C-Level as a common language: one value that all levels can align to.

2. Dimensional Breakdown for Internal View
- To gain internal transparency, revenue is broken down in reporting across hierarchies and dimensions: Geographic region → country → team

3. Steering Logic
- Drill-down principle: From total revenue → region → country → team
- Comparability: Regions or teams can be compared using the same KPI.
- Transparency: Clearly shows which unit is growing, stagnating, or falling behind.

4. Modern Practice
- Today, revenue in C-Level reporting is typically visualized via dashboards.
- Drill-down: by region, rankings by teams. Time development (monthly, quarterly).

→ This gives top management an **internal map of the sales organization, built on a central KPI**.

KPI Lessons from Hardware Production

The logic is similar to sales, but with a different focus: OEE instead of Revenue

1. OEE (Overall Equipment Effectiveness) as the Top-Line KPI

- OEE is an internationally recognized standard, composed of availability × performance × quality.
- Is a common language and enables cross-site comparison.

2. Dimensional Breakdown for Internal View

- To gain internal transparency, revenue is broken down in reporting across hierarchies and dimensions:
  Location (Plants A, B, C), Product line (Hardware X, Y), Machines

3. Steering Logic

- Drill-down principle: Locations → Machines → …
- Comparability: Factories, Locations, Machines can be compared using the same KPI.
- Transparency: Clearly shows which unit is growing, stagnating, or falling behind.

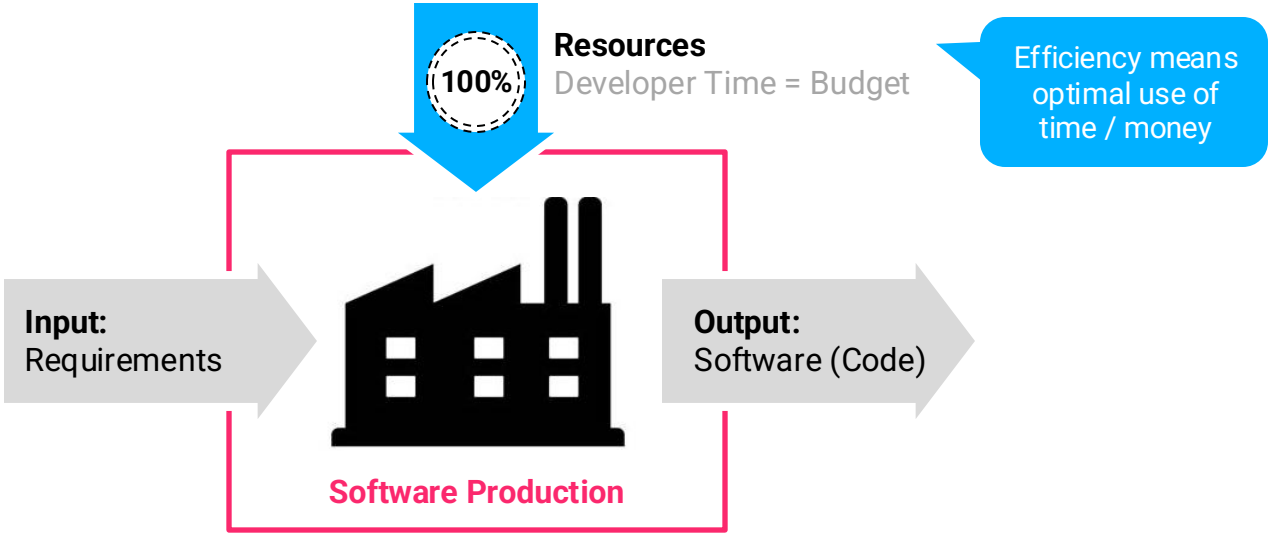
4. Modern Practice

- Global Operations Dashboards: C-Level sees a world map with factories, color-coded by OEE.
- Drill-down: Plant managers see details (downtime, scrap rates, bottlenecks).

→ This gives top management an **internal map of the production organization, built on a central KPI**.

Measuring Efficiency Is the Key to Successful Software Production

A unifying KPI that normalizes different kinds of heterogeneity in software production.

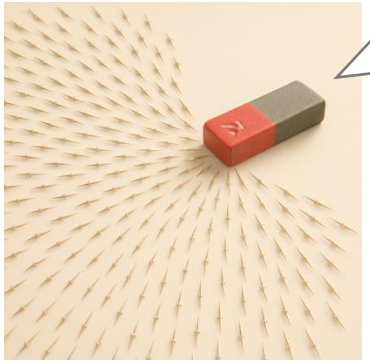


KPI Efficiency abstracts from technology stacks, programming languages, agile vs. waterfall methodology, large vs. small teams, legacy vs. green-field software, software running on small hardware, servers, web browsers, mobile devices, …

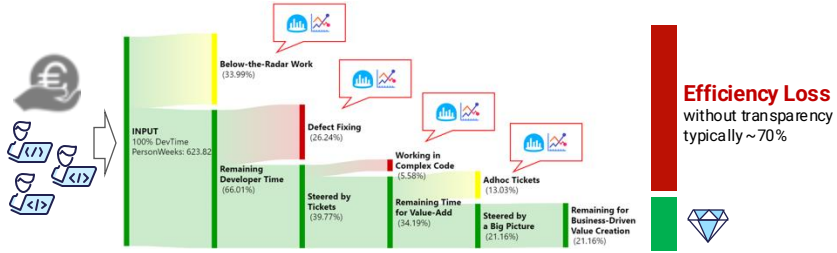
KPI Efficiency translates from tech to business relevance.

C-Level Visibility alone Drives Intrinsic Motivation to Improve

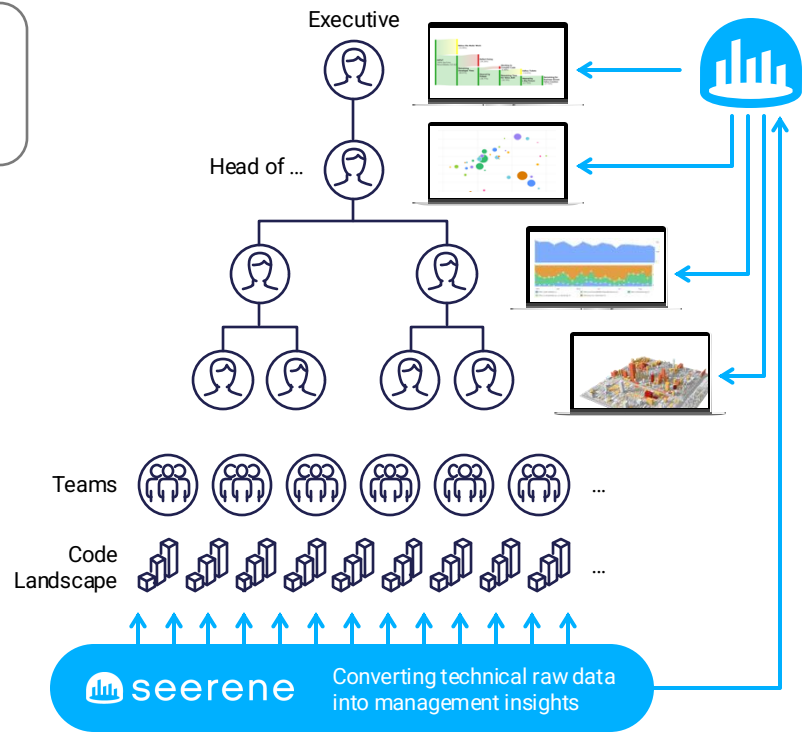
Fully-automated data-driven measurement of efficiency at all levels



"Magnetic Pull Effect" of C-Level Visibility



Efficiency in Software Production

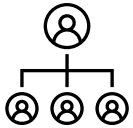


Software Production Can Be Managed by the Same KPI Principles

KPI Lessons from Sales Orgs & Hardware Production

1. Efficiency (Efficient use of Developer Time) as the Top-Line KPI

- Software developers are the scarcest and most costly resource in software production.
- The Efficiency KPI as common language abstracts from heterogeneities in software production.



2. Dimensional Breakdown for Internal View

- To gain internal transparency, revenue is broken down in reporting across hierarchies:
  Traditional: division → business unit → department → team
  Scaled Agile: solution train → agile release train → team

3. Steering Logic

- Drill-down principle: along org unit responsibility hierarchy
- Comparability: Org units at all levels can be compared using the same KPI.
- Transparency: Clearly shows which unit is growing, stagnating, or falling behind.

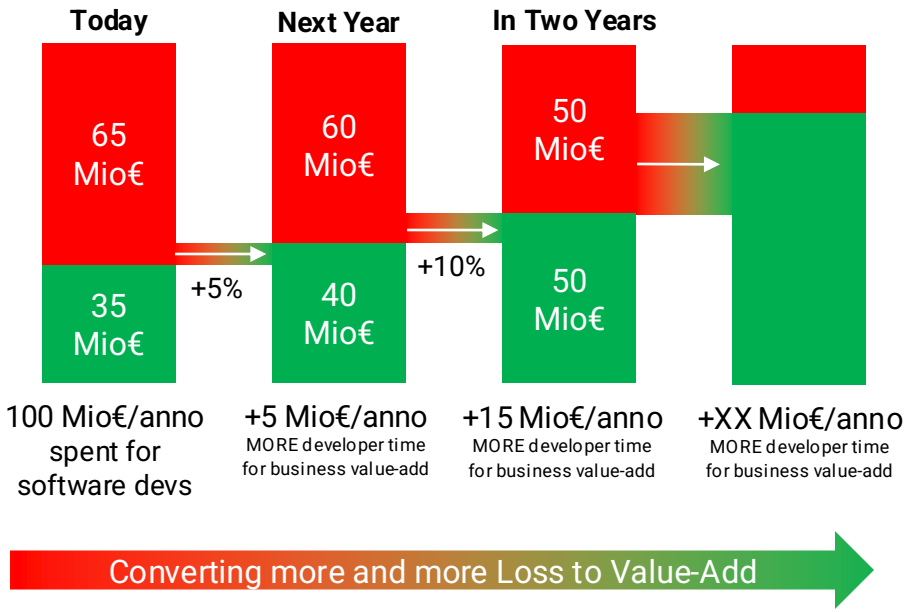
4. Modern Practice

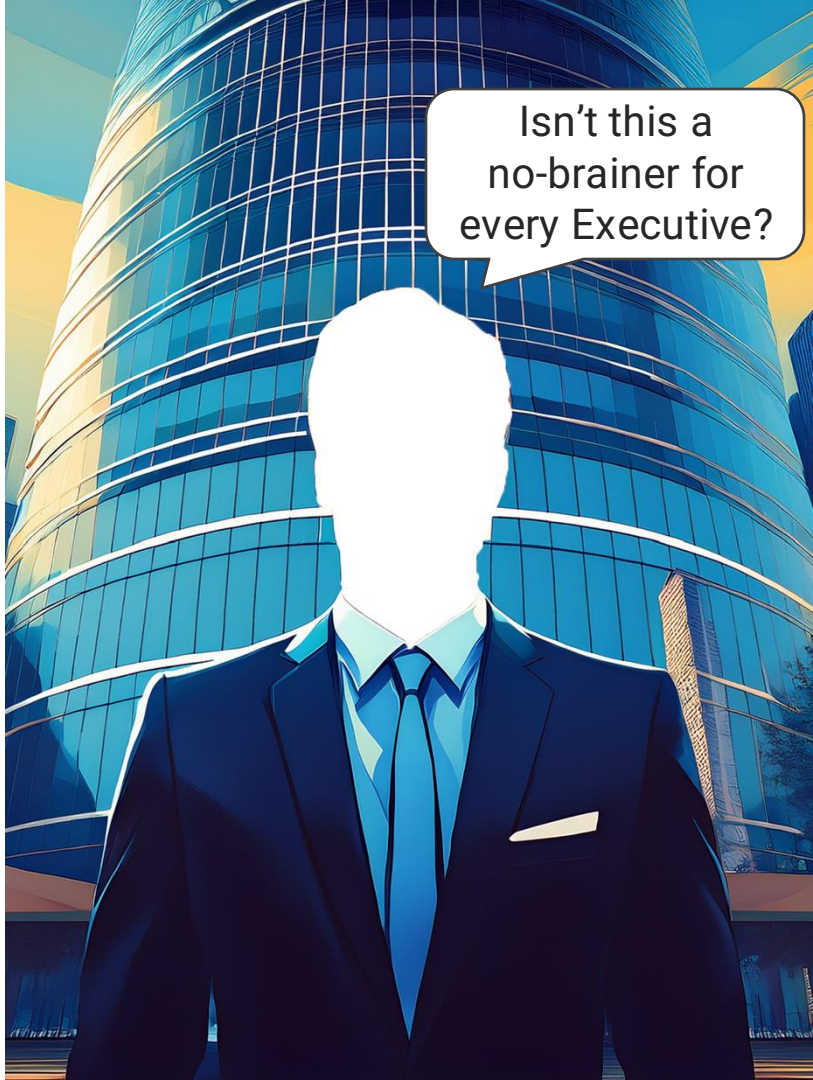
- Integration in C-Level dashboards: C-Level sees efficiency of hierarchically organized units including trends
- Drill-down: head of division, head of department, head of team get actionable insights to improve their unit

→ This gives top management an **internal map of the software production organization, built on a central KPI**.

Unlocking Massive Efficiency Gains

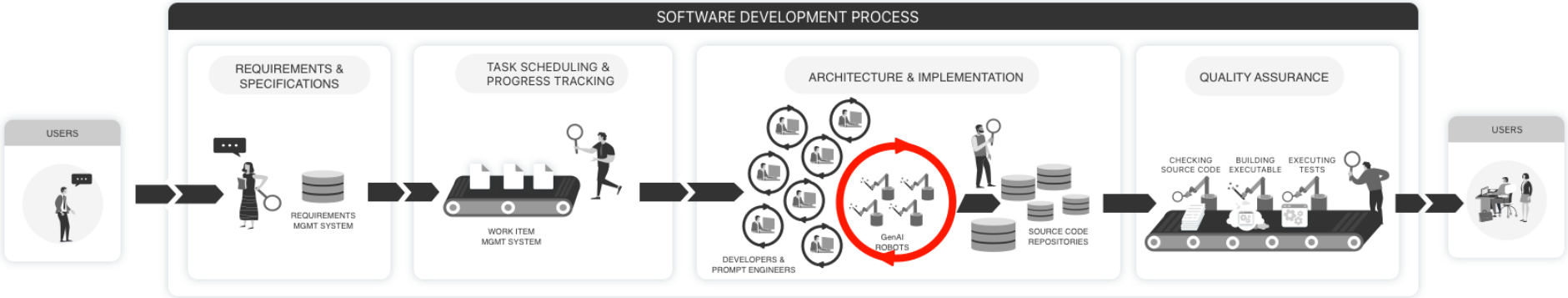
Example: Organization with 1,000 Developers





AI-Based Coding Tools will Change Software Development

But won't replace the human factor in the process:
AI agents consume time and money and have to be guided and managed



Conventional Coding
→ Screwdriver

GenAI-assisted Coding
→ Screwrobot

Summary

Software has been Eating the World

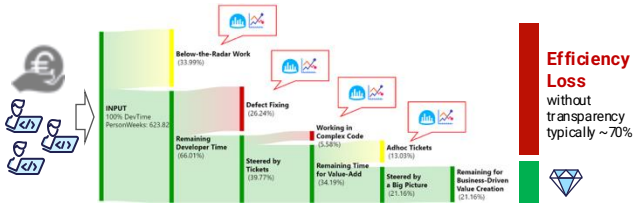
Software development has become a C-level strategic function
– both a driver of business-critical value and a major cost factor.

An established management blueprint already exists:

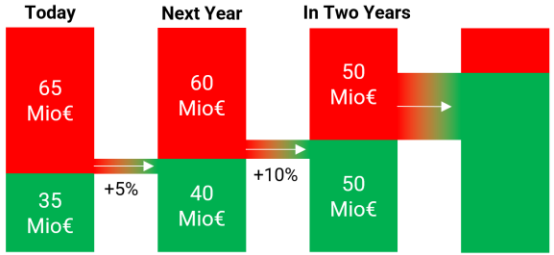
- **Efficiency as Top-line KPI** for strategic steering
- **Organizational breakdown** for internal transparency
- **Steering logic** based on drill-down, comparability, and clarity

Today, this blueprint for software production can be put into practice
– unlocking **massive efficiency gains**.

Discussion point: Why do many top executives remain hesitant?



Efficiency in Software Production



Thank You!

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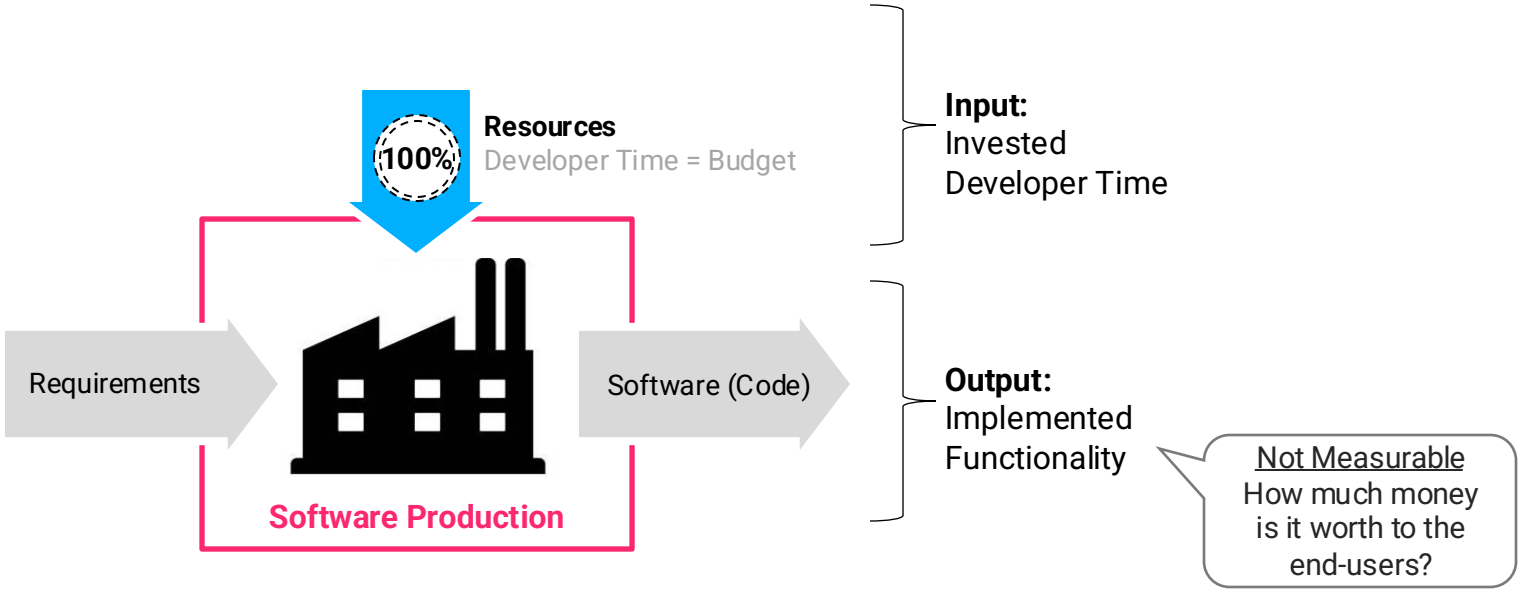
www.seerene.com

ADDON

Why Not Measuring “Productivity” in Software production?

Why Not Measuring “Productivity” in Software Production



Productivity = Output / Input

Efficiency: Decoupling Measurement from the “What to Build”

Efficiency is like the motor in a car → It defines **Reach**

Today’s agile principles address the “what to build / where to go” question:

- A **Vision** is broken down into **Epics**, then into **Stories**.
- Stories are managed in a **prioritized backlog**.
- The **steering direction of the “car”** is defined by the Stories.
- The direction is **readjusted every iteration (two-week Sprint)**.
- This ensures the car continuously moves closer to the **target vision**, even when unforeseen obstacles appear along the way.

The car’s efficiency determines:

- How far one tank will take you.

As the **fleet manager**,
you should **know how efficient each car (or team)** is
and step in to help improve when one is struggling.

ADDON

OEE Overall Equipment Effectiveness

OEE – Overall Equipment Effectiveness

- Gold standard for measuring manufacturing productivity.
- Simply put: It identifies the percentage of manufacturing time that is truly productive.
- OEE score of 100% means you are manufacturing only Good Parts, as fast as possible, with no Stop Time.

$$OEE = Availability * Performance * Quality$$

$$Availability = operating\ time / scheduled\ time$$

$$Performance = \frac{Parts\ produced * Ideal\ cycle\ time}{Operating\ time}$$

$$Quality = \frac{Units\ produced - Defective\ units}{Units\ produced}$$

ADDON

How AI Changes the Software Development Discipline

Will Artificial Intelligence Replace Software Developers?

“Vibe Coding” is the new “Citizen-Developers Paradigm” that makes software developers obsolete

Back Then

Specialized knowledge about
programming languages &
algorithms & data structures
is required

Yesterday

Specialized knowledge about
frameworks/libraries
is required

Today

Specialized knowledge
how to talk with the GenAI tool
is required

Software is Never Finished

Most software is not built once, but underlies a long-term evolution with constant pressure to innovate and adapt

World turns,
business processes &
opportunities change.

Continuously change the software

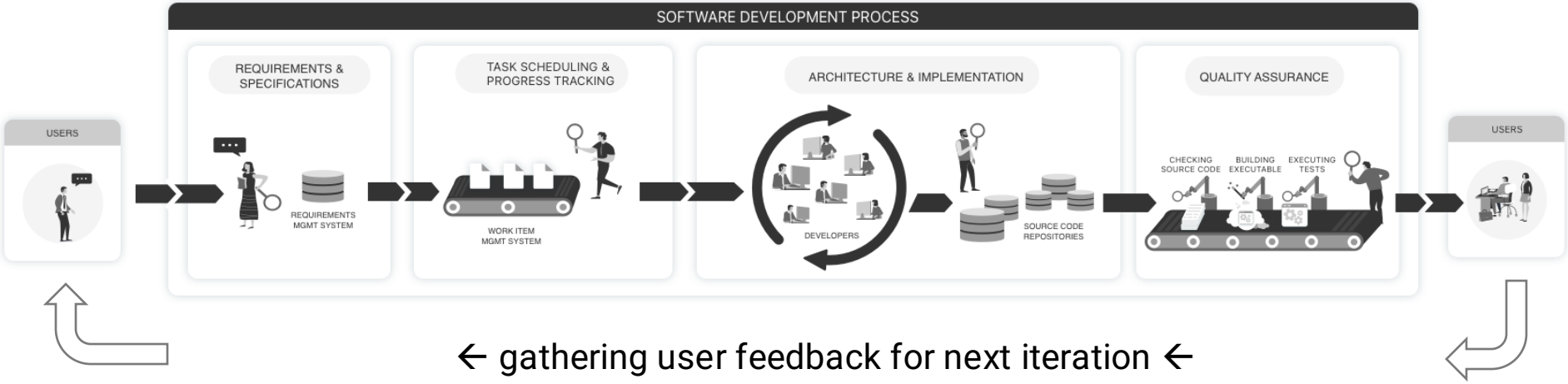
Users expect continuous innovation. Otherwise, they switch over to competitors.

Software must continuously be innovated, adapted, extended.

Its purpose and architecture evolves.

Software Development as Iterative Process

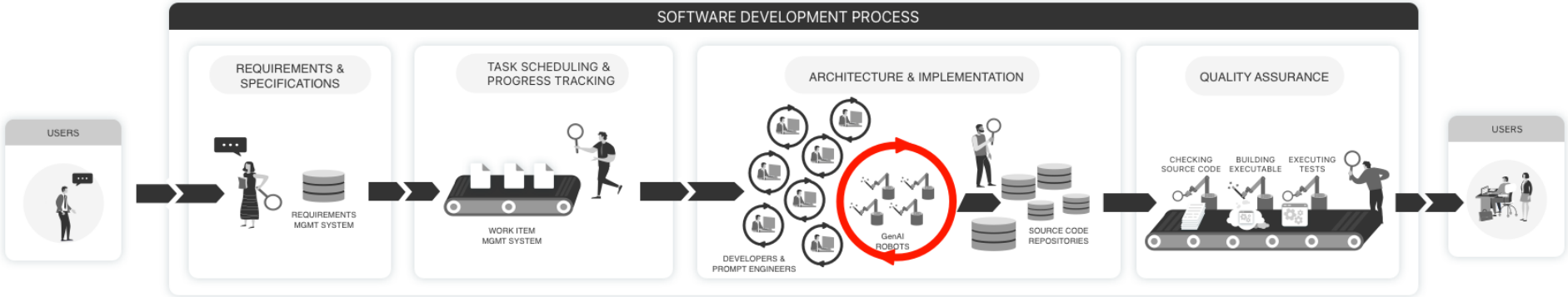
Innovation Delivered Incrementally to Users, One Cycle at a Time



← gathering user feedback for next iteration ←

Software Development with GenAI-Based Coding Tools

Accelerated Coding: A Powerful Opportunity — With Risks Attached



Conventional Coding
→ Screwdriver

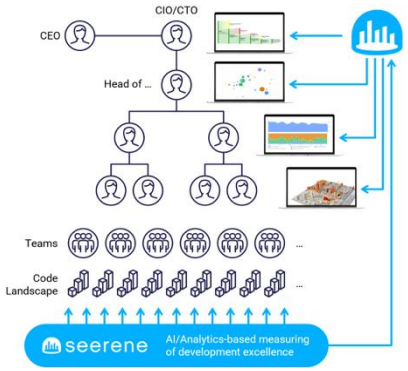
GenAI-assisted Coding
→ Screwrobot

Leading the Organization to Peak Efficiency and Productivity

A Call to Action: Embrace Executive Responsibility

1

Top-Management Responsibility
Create Transparency about Efficiency across the entire Software Organization



Continuous Data-Driven Governance

2
Provide Developers with GenAI-based Tools

3
Further Organizational and Tech Initiatives

4
...

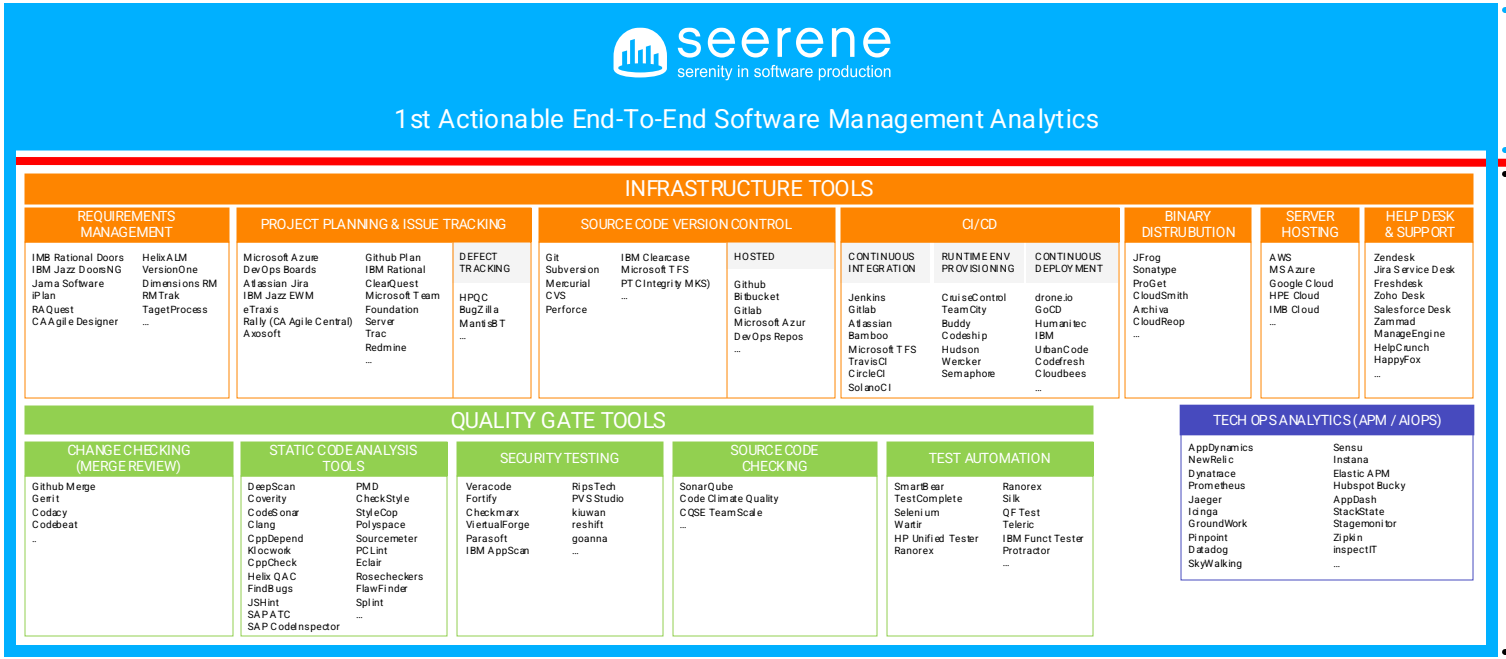
Improvement Initiatives → → →

BACKGROUND

How Seerene Works and How It Serves You as a Leader

Seerene Defines a New Category in the Software Development Space

Software Tools Leave Insights in Isolated Silos. Seerene Fuses Siloed Data into a Holistic Management View — Making Them Actionable for All Stakeholders.



Top Management

Creates Transparency for *all stakeholders – together as one*

All tools just communicate "inside" the software factory

Tech Teams

Receive Tactical information for their niches

Those tools are not needed to run Seerene – but they can be integrated.

Given top management attention, Seerene puts the organization into autopilot mode:
It builds trust and confidence across all levels and enables the organization to steer towards maximum efficiency.

How Seerene Was Able to Achieve This Massive Leap in Innovation

And Overcome the Deep Tech Challenges Along the Way

GERMAN DEEP TECH GROUP

2003

HPI Hasso Plattner Institut

15+ years R&D at **Hasso Plattner Institute**, the leading university for software engineering in central Europe.

2015

Seerene was founded by
Prof. Dr. Jürgen Döllner
Dr. Johannes Bohnet
Marc Hildebrandt

AUTODESK.

Selling the IP of 3D Geo to the NASDAQ-listed Autodesk corporation. 3D Geo and engineering Team is still today the core to all Geospatial Infrastructure and Urban Modeling related Autodesk products (Nasdaq adhoc message 08/2008).

2017

Full Transparency
Visualization of complex system runtime behavior – supporting developers in debugging software.

2020

Full Agnosticism
AI based automated fusioning of heterogeneous software development tools, platforms, organizations and working styles in big organizations.

2021

Ready for IT-Leaders

- Minimum effort
- Fast implementation
- Security and Compliance
- Focus on Success Factor Efficiency (Time & Money)

2024

Plug and Play Solution for Big Orgs
for complex corporate setting with highest security standards, workers council compliance and maximum management relevance.

TODAY

Readiness for C-Level
With huge gain on Effectiveness for big organization.

Get inspired how to make use of the Seerene leverage effect in your software production.

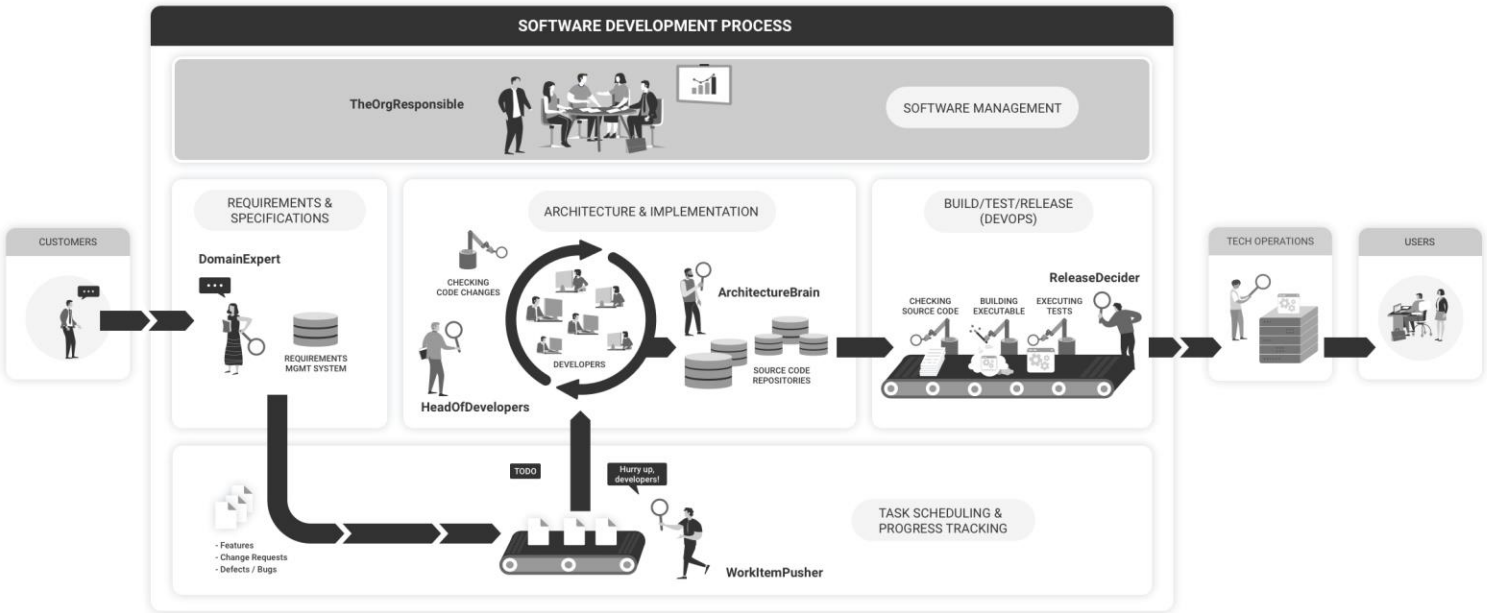
International Patents/ IP Registrations of Seerene:

- 2011-06-15_S60673PCT
- US Patent No.8,997,058
- EU_11_711.779.6-FBP26177
- T012528560
- 2011-06-15_S60674PCT
- US Patent No.9,953,443
- EU_11_711_780.4-FBP26178

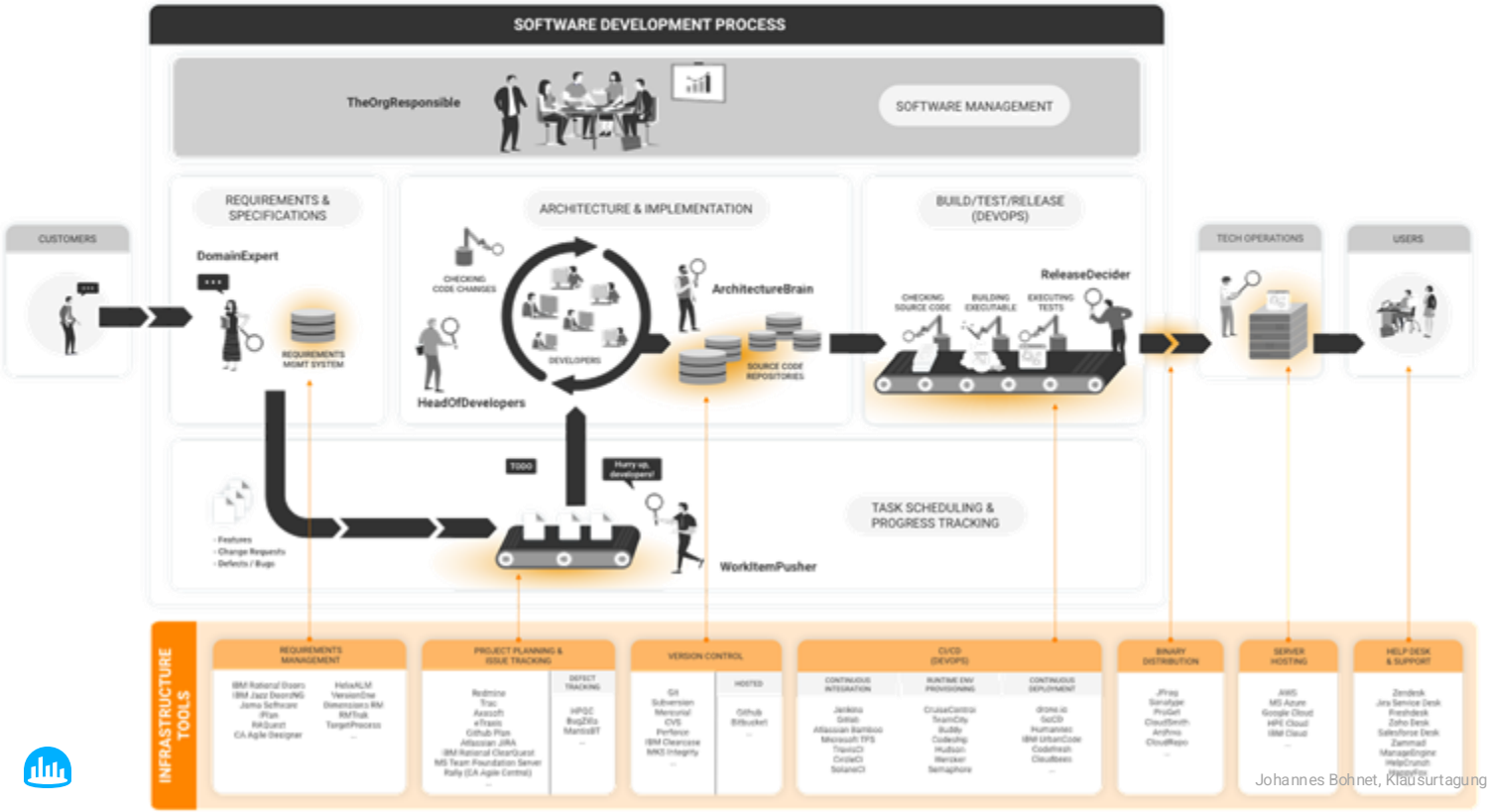
Partnerships and projects with leading organizations

T · · · e·on BOSCH ERSTE Bank Henkel EY KPMG Continental SIEMENS

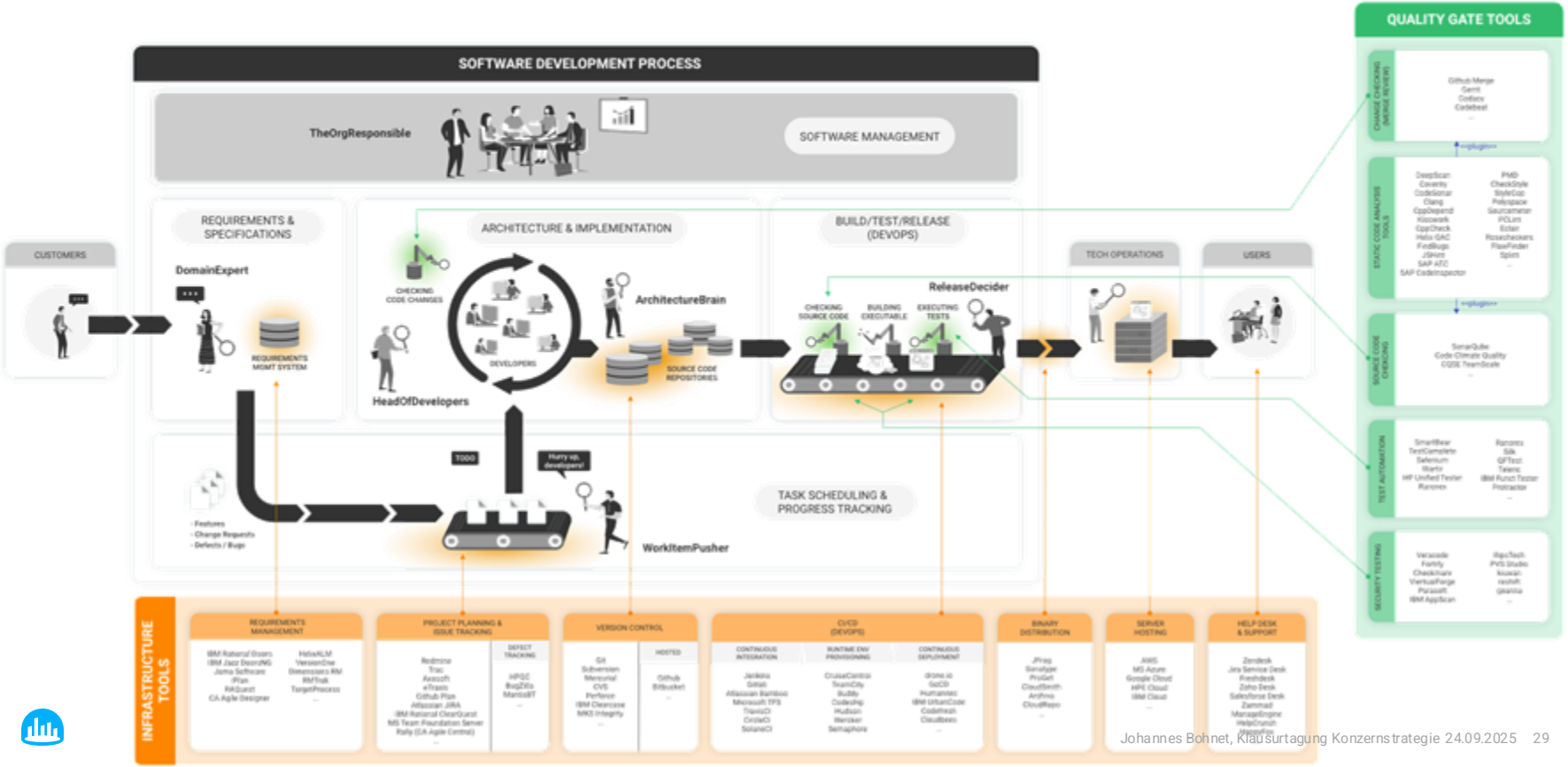
The Software Development Process in Its Essence



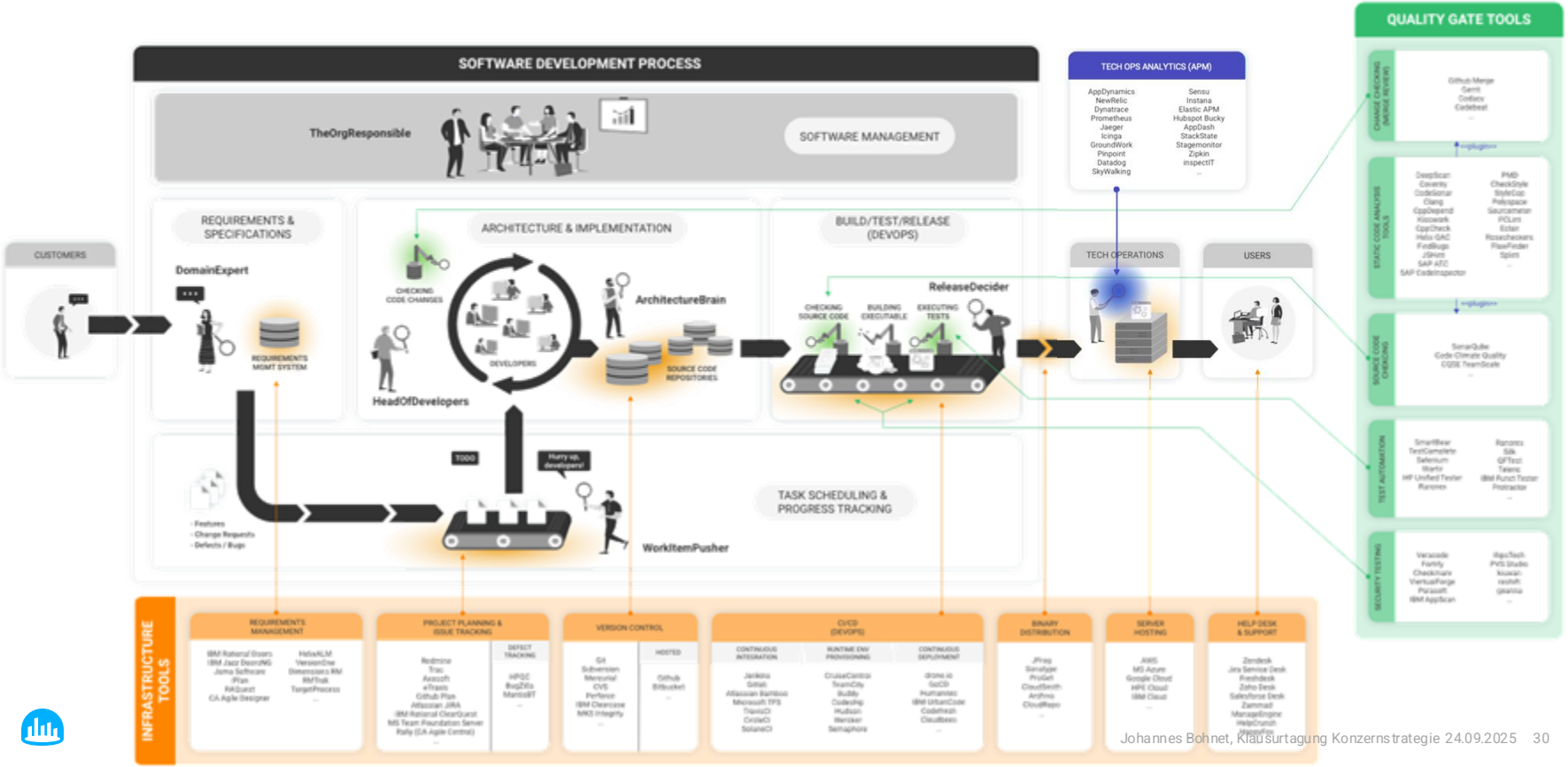
Infrastructure Tools for Software Development

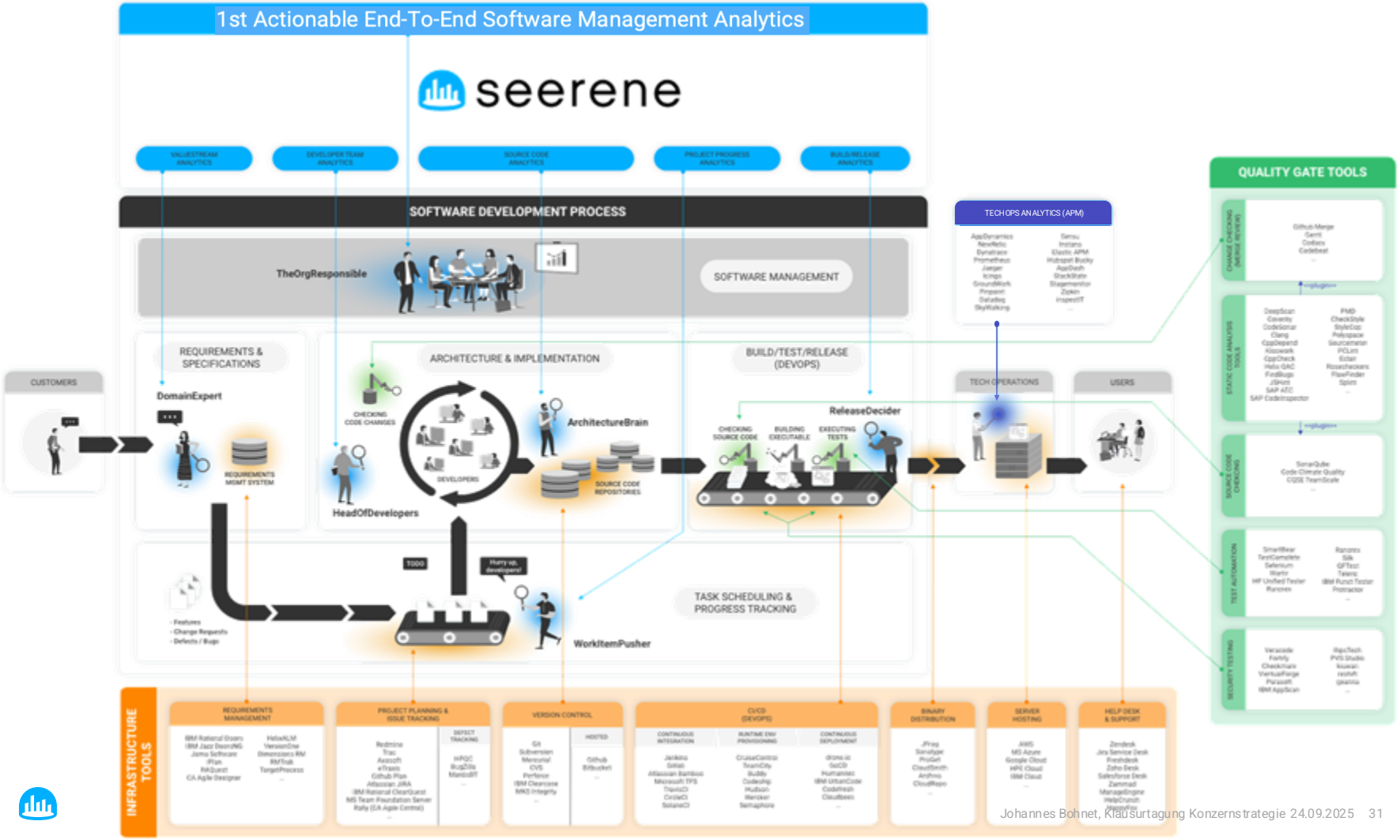


Quality Tools for Software Development



Analytics in the IT Operations Space but Not in Software Development

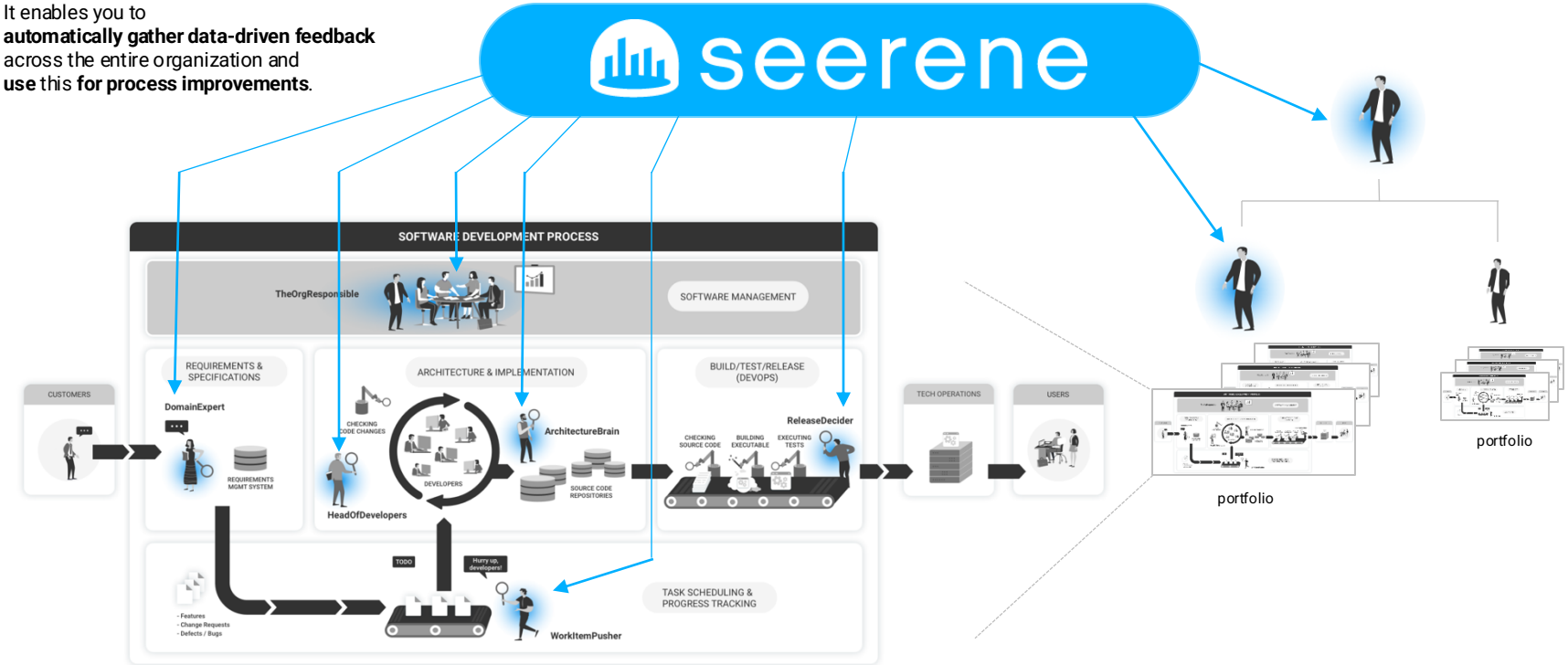



1st Actionable End-To-End Software Management Analytics
seerene
VALUESTREAM ANALYTICS
DEVELOPER TEAM ANALYTICS
SOURCE CODE ANALYTICS
PROJECT PROGRESS ANALYTICS
BUILD/RELEASE ANALYTICS
SOFTWARE DEVELOPMENT PROCESS
TECHOPS ANALYTICS (APM)
QUALITY GATE TOOLS
TheOrgResponsible
SOFTWARE MANAGEMENT
REQUIREMENTS & SPECIFICATIONS
ARCHITECTURE & IMPLEMENTATION
BUILD/TEST/RELEASE (DEVOPS)
CUSTOMERS
DomainExpert
REQUIREMENTS MGMT SYSTEM
CHECKING CODE CHANGES
DEVELOPERS
ArchitectureBrain
SOURCE CODE REPOSITORIES
HeadOfDevelopers
ReleaseDecider
CHECKING SOURCE CODE
BUILDING EXECUTABLE
EXECUTING TESTS
TECH OPERATIONS
USERS
TODO
Hurry up, developers!
TASK SCHEDULING & PROGRESS TRACKING
WorkItemPusher
INFRASTRUCTURE TOOLS
REQUIREMENTS MANAGEMENT
PROJECT PLANNING & ISSUE TRACKING
VERSION CONTROL
CI/CD (DEVOPS)
BINARY DISTRIBUTION
SERVER HOSTING
HELP DESK & SUPPORT

Comparable Transparency Across Large, Heterogeneous Enterprise Settings

It Provides an Abstraction Layer on Top of the Heterogeneous Tool Chains and Creates a Common Language Across the Entire Enterprise.

It enables you to
automatically gather data-driven feedback
across the entire organization and
use this **for process improvements**.



Software development organization for a project / application / digital product

Thank You!

Let's plan our NEXT STEP!

seerene
serenity in software production

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www.seerene.com