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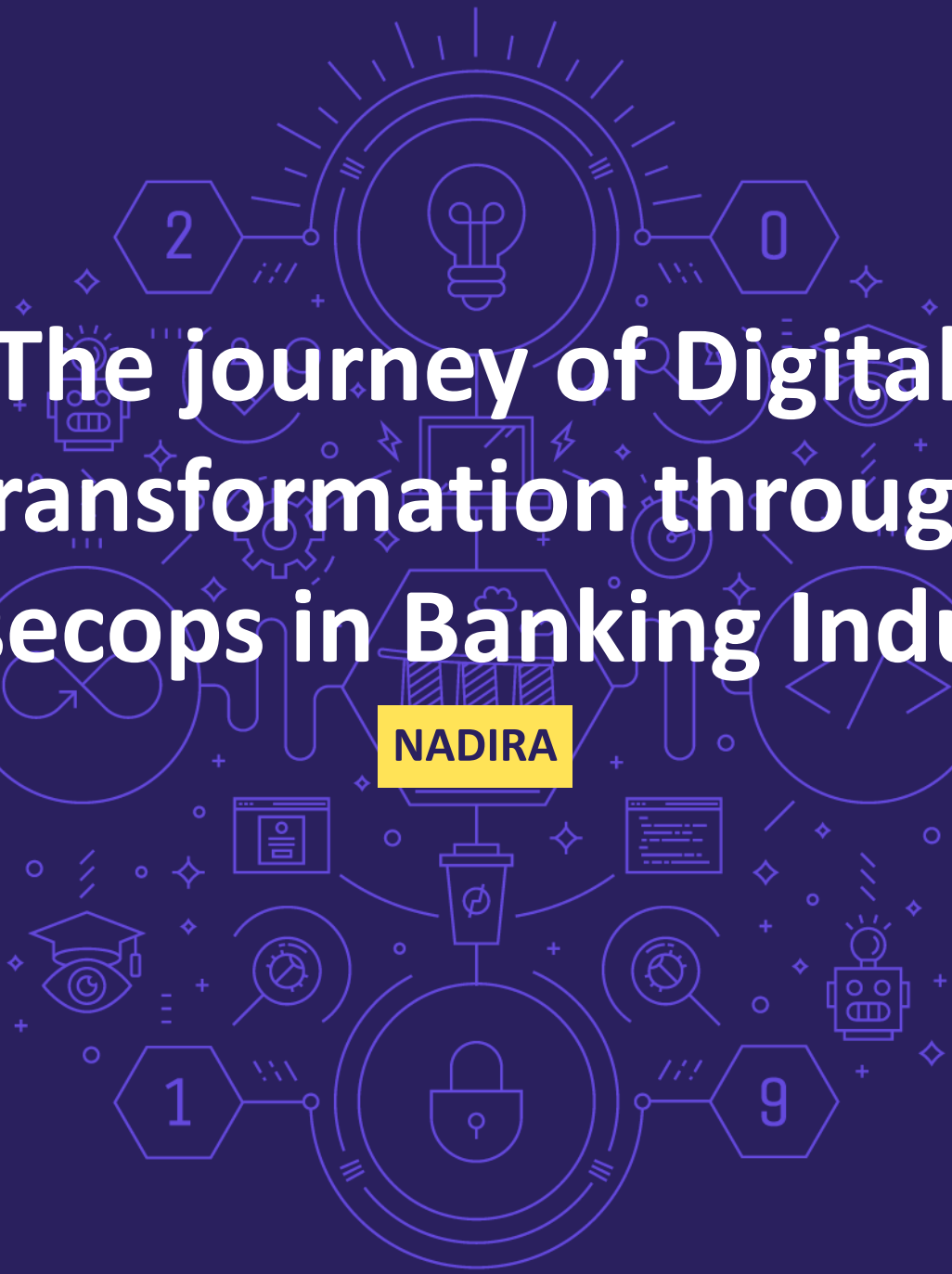

The journey of Digital Transformation through Devsecops in Banking Industry

NADIRA

Singapore | 28 Feb - 01 Mar 2019

Nadira Bajrei

IT Continuous Improvement and Knowledge Management at Bank Mandiri Tbk

MIT from University of Indonesia,
IT Governance Specialist.

- 9 years experience as a IT process and governance
- 6 years experience in Banking Industry
- Develop All IT process.
- Integrated whole SDLC process through automation.
- Built up internal community and become community leader for agile and devops.
- Bank Mandiri Change Agent for Devops Adoption
- Built up Devsecops Indonesia Community.

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AGENDA :

1. Background
2. Transformation Roadmap
3. DevSecOps Journey
4. Challenges

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1 | Background

What is **digital transformation**?

Integration of digital technology into all areas of a business, **fundamentally changing** how you operate and deliver value to **customers**. It's also a **cultural change** that requires organizations to **continually challenge the status quo**, **experiment** and **get comfortable with failure.**

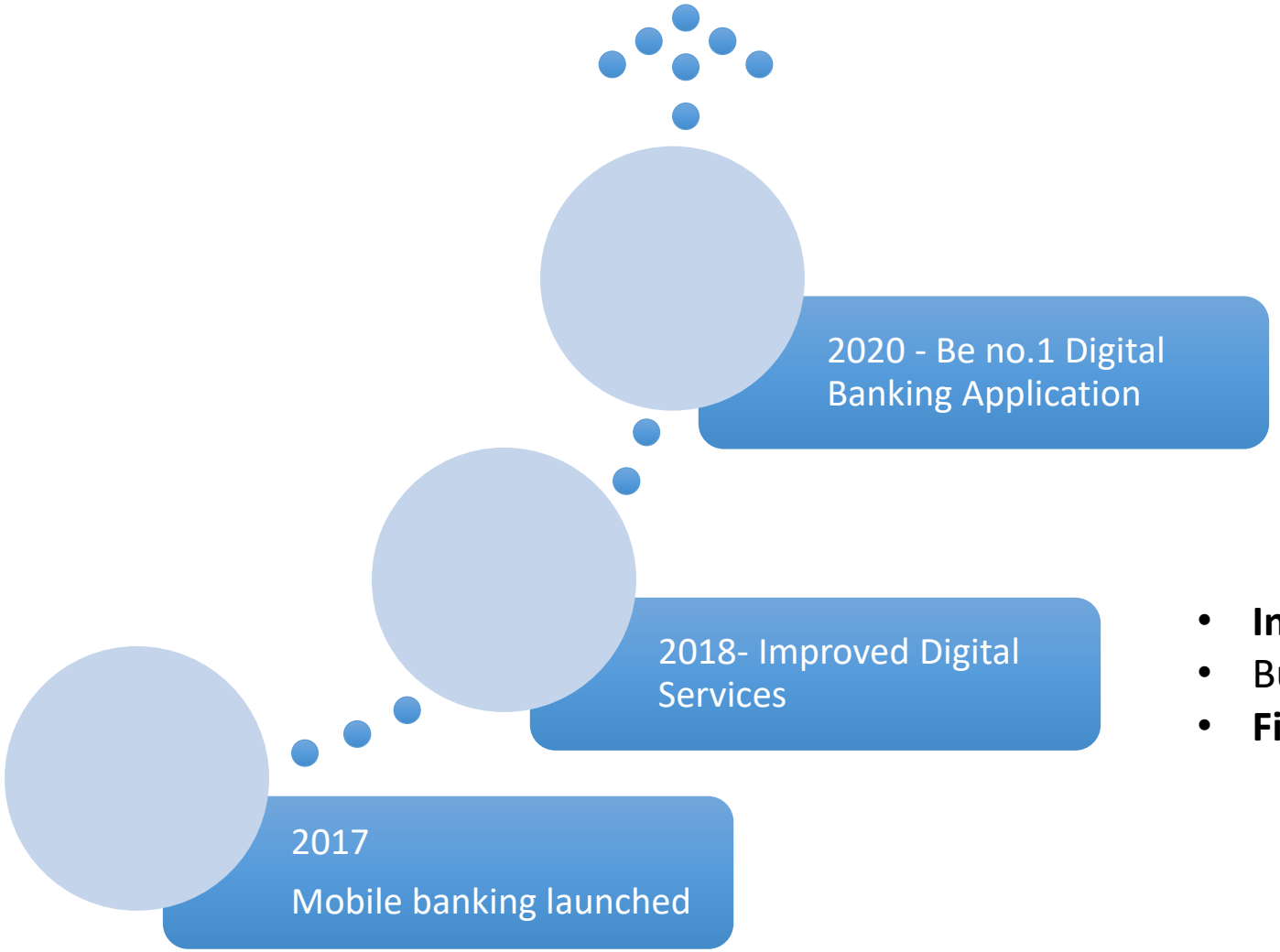
Why We Need to do The Transformation?

1. Achieve Our Vision 2020 "Become Indonesia's Best, ASEAN's prominent"
2. Enter The Digitalization Era and Competition with Disruptor
3. Engage customers through multiple channels
4. Quickly respond to changing customer needs

- **Digital Banking Transformation**
- **Improve internal capabilities in many areas such as :**
  - IT Security, Availability & Reliability
  - Digital and Infrastructure
  - People, Process, Governance

Digital Banking Transformation – Business Function

Define the "**Digital Banking Roadmap**" to **become customer – centric organization**



- Provide **personalized** and **targeted offers** to specifics customer
- Drive **digital onboarding process**
- Offer **Innovative services / features** through **external collaboration**

- **Improve Internal Capabilities** to enable digital banking initiatives
- **Build strong foundation in** digital capabilities

- **Increasing** service transaction
- Build **Cashless ecosystem**
- **Fintech Collaboration**

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2 | Transformation Roadmap

Roadmap Plan(2017-2020)

People

Process

Technology

1. Infuse agile devops culture and mindset in business and IT Leadership and seek strong buy in and sponsorship to change.
2. Adopt right organizational structure to quickly incubate agile skills and start piloting agile project
3. Start practicing agile with collaborative workspaces, business co-ownership (Product Owner) and right sized governance
4. Start defining policies and procedures for Agile Methodology
5. Start build Devsecops architecture and automate everything

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3 | DevSecOps Journey

DevOps will complement Agile Methodology to break the "silos" and achieve better Business-IT Alignment, increased delivery certainty and faster speed to market and deliver more secure application.

Customers

WANTING FLEXIBILITY

- ❑ Create Flexibility
- ❑ Improve time to market

Wall

Development

WANTING CHANGE

- ❑ Create effective change
- ❑ Add/Modify Features

Wall

IT Operations

WANTING STABILITY

- ❑ Create Stability
- ❑ Enhance services

Wall

IT Security

WANTING SECURITY

- ❑ Create Security
- ❑ Enhance security services
- ❑ Security as a code

Agile

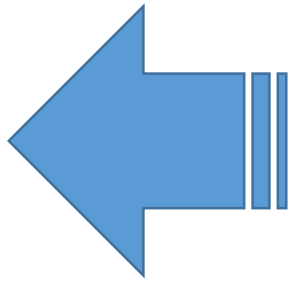
1. Better Business - IT alignment

DevOps

2. Increased Delivery Certainty
3. Faster Speed to Market

DevSecOps

4. Deliver more Secure Application



Security as a code
Shift left security testing

DevSecOps

Agile Development

Continous Integration

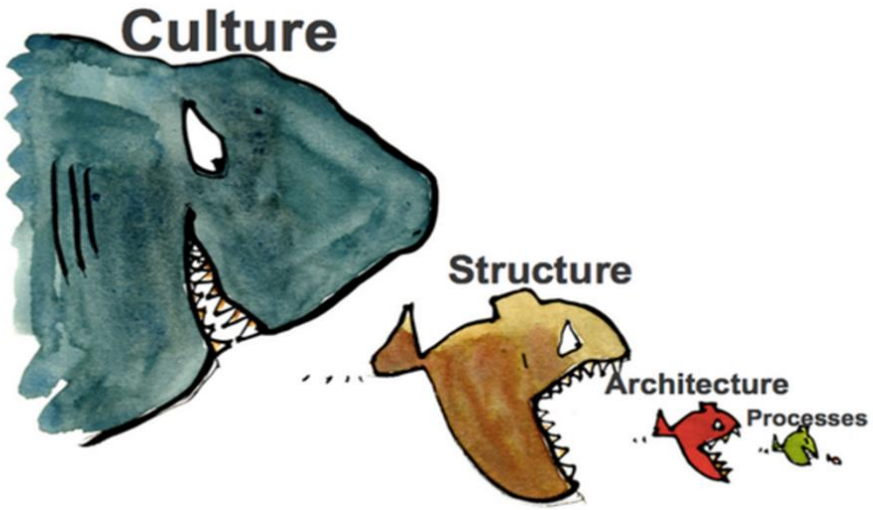
Continous Delivery

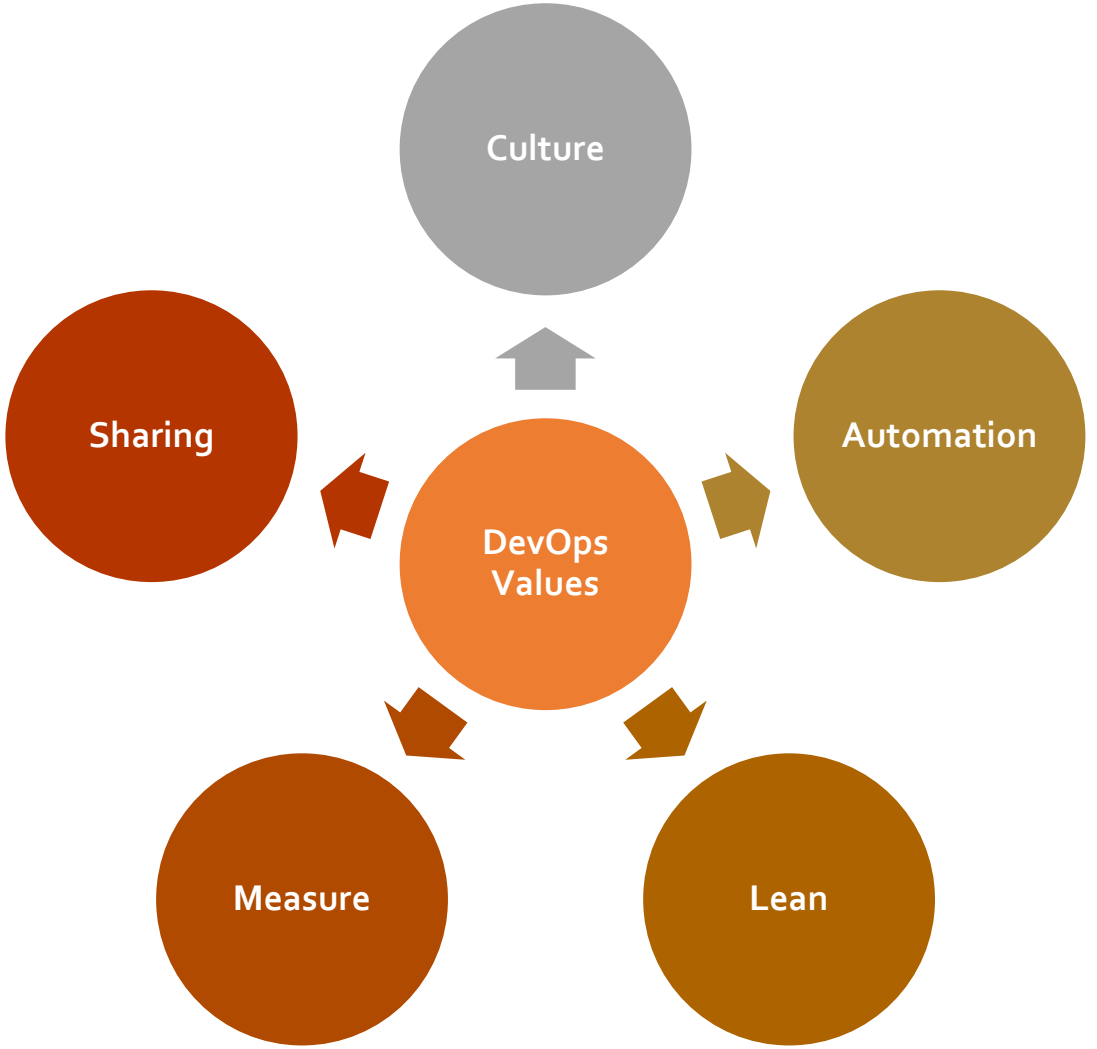
Business decision to go live

Continous Deployment

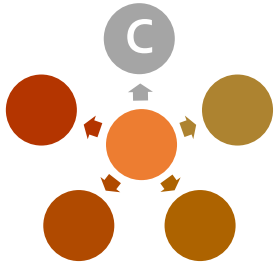
Devops


KEEP
C.A.L.M.S.
AND
DEVOPS


Culture
Structure
Architecture
Processes


Culture
Sharing
Automation
DevOps
Values
Measure
Lean

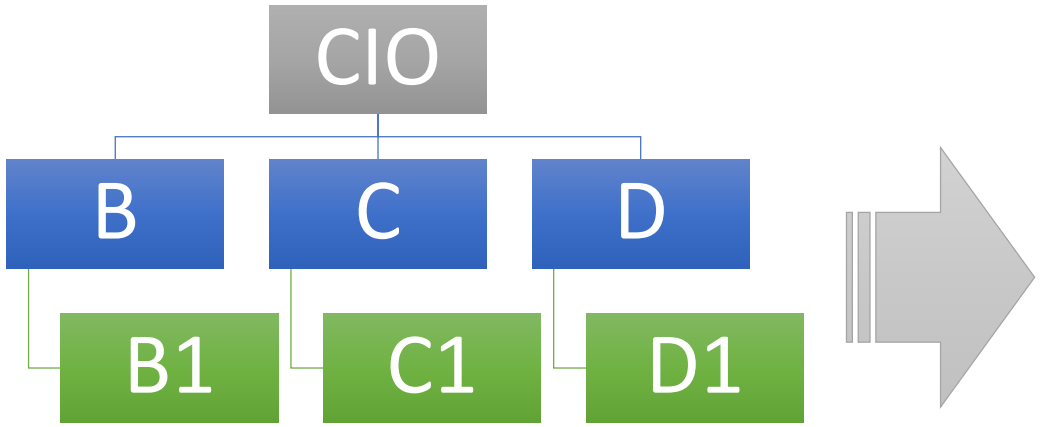
Organizational culture is one of **the strongest predictors** of both **IT performance** and **overall performance** of organization



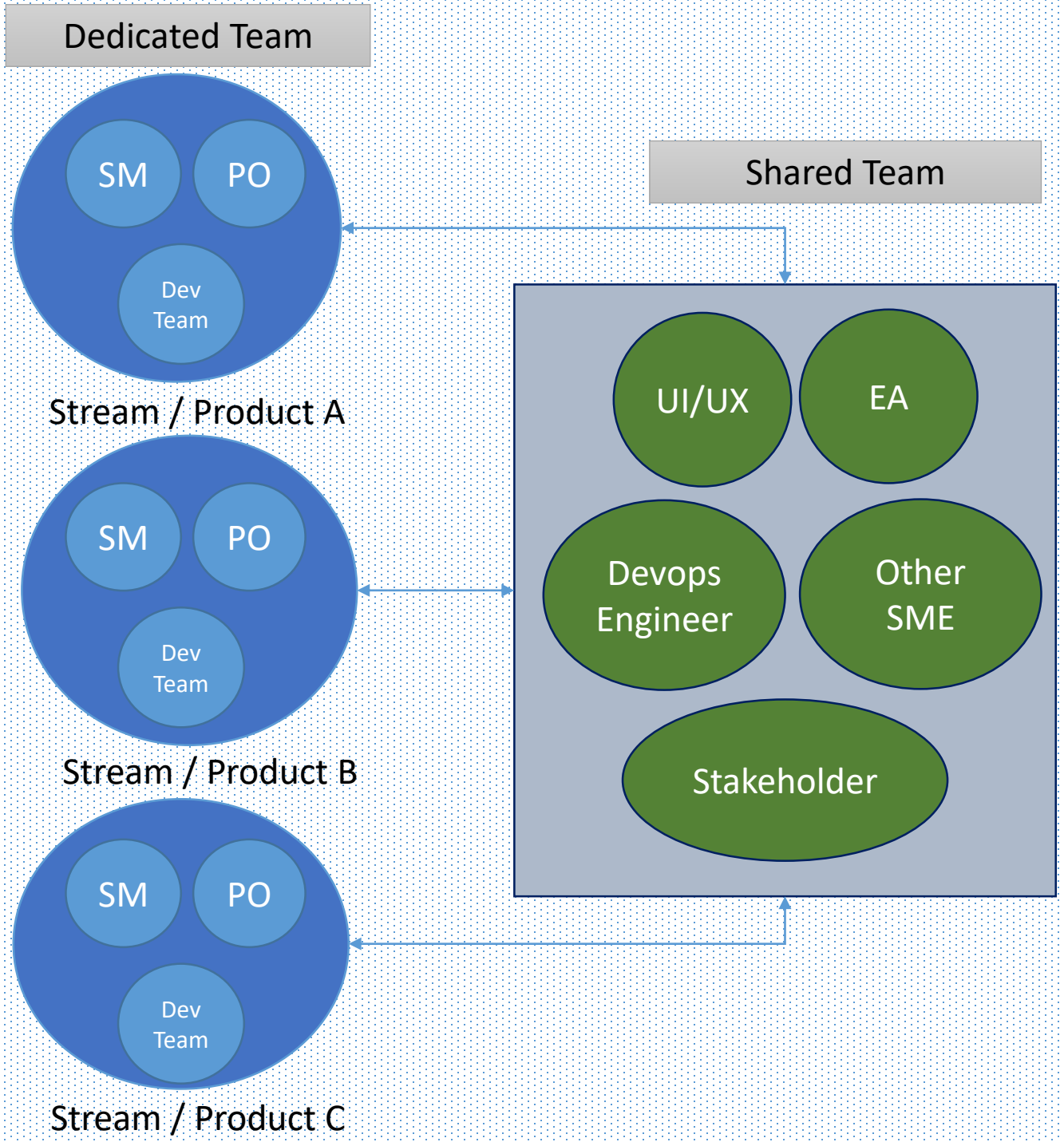
We are to do **shifting thought** and **Behaviors,** Culture of **Safe Failure and also** culture of **Continous Improvement**

FROM	TO
1) IT Focus (Inside out)	1) Customer Focus (Outside in)
2) Silos	2) Cross Functional
3) Command & Control	3) Self Organized & Collaboration
4) Task Oriented	4) Outcome Oriented
5) Blame	5) Take Responsibility
6) Reactive	6) Proactive
7) Resistant	7) Flexible
8) Low Trust	8) High Trust

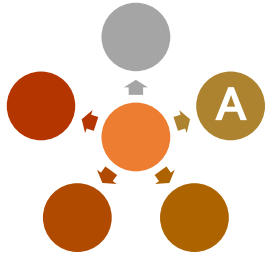
Organization Structure



- From Structural to Matrix Structure
- Divided by stream/product
- Provide organic growth



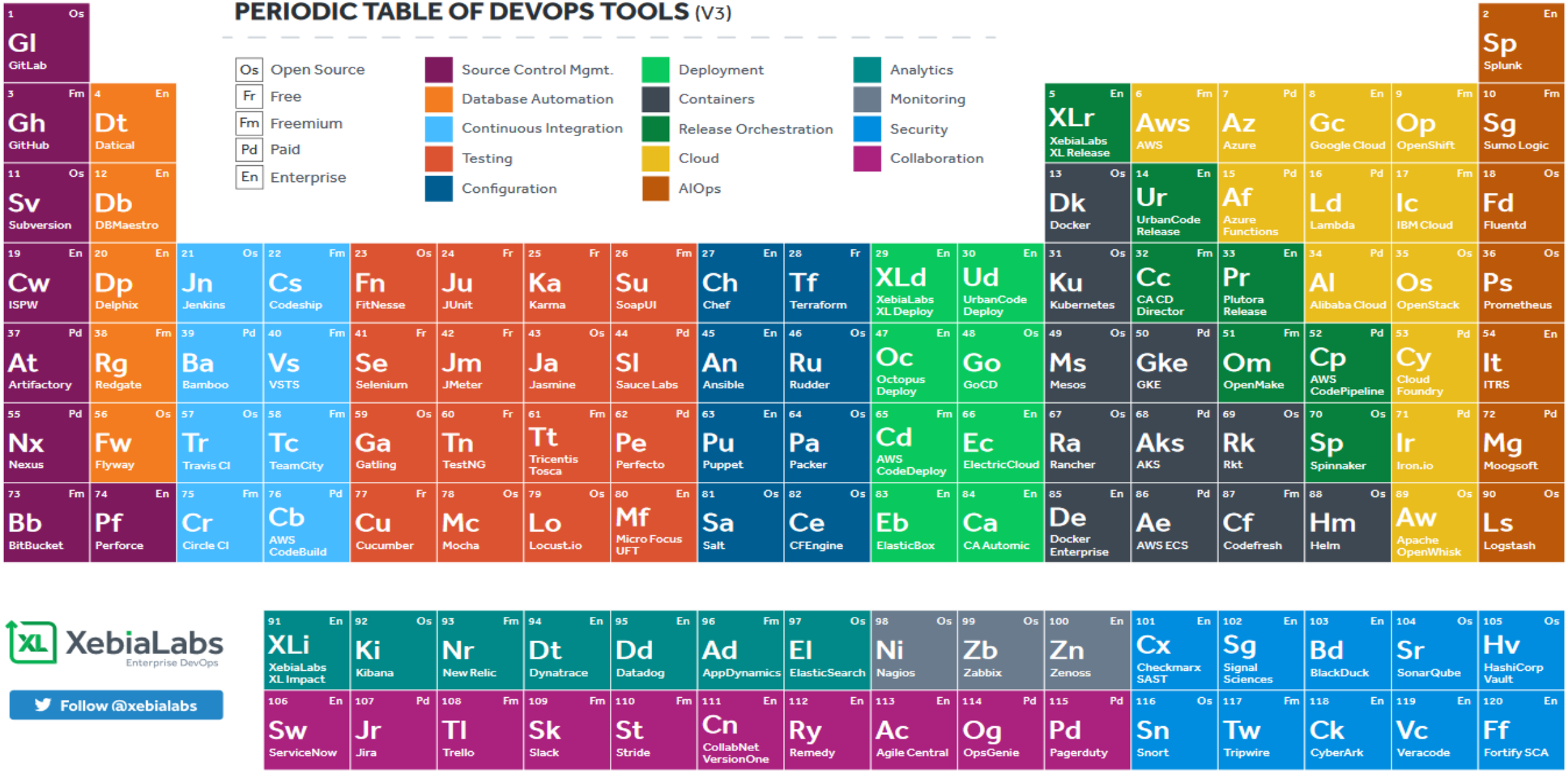
Adopting **automation** we **avoid** tools that **enforce** silos



What We Do?

1. **Architect** before automating
2. **Assess** our existing tools and automation capabilities
3. **Identify** critical gaps
4. **Seek** vendor for POC
5. **Automate** high value and repetitive work
6. **Optimize** workflow bottleneck

"Do not underestimate the effort and cost building toolchain from open source applications, open source is not necessarily free, you need to modify the source fit to your needs"



XebiaLabs
Enterprise DevOps

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Devsecops

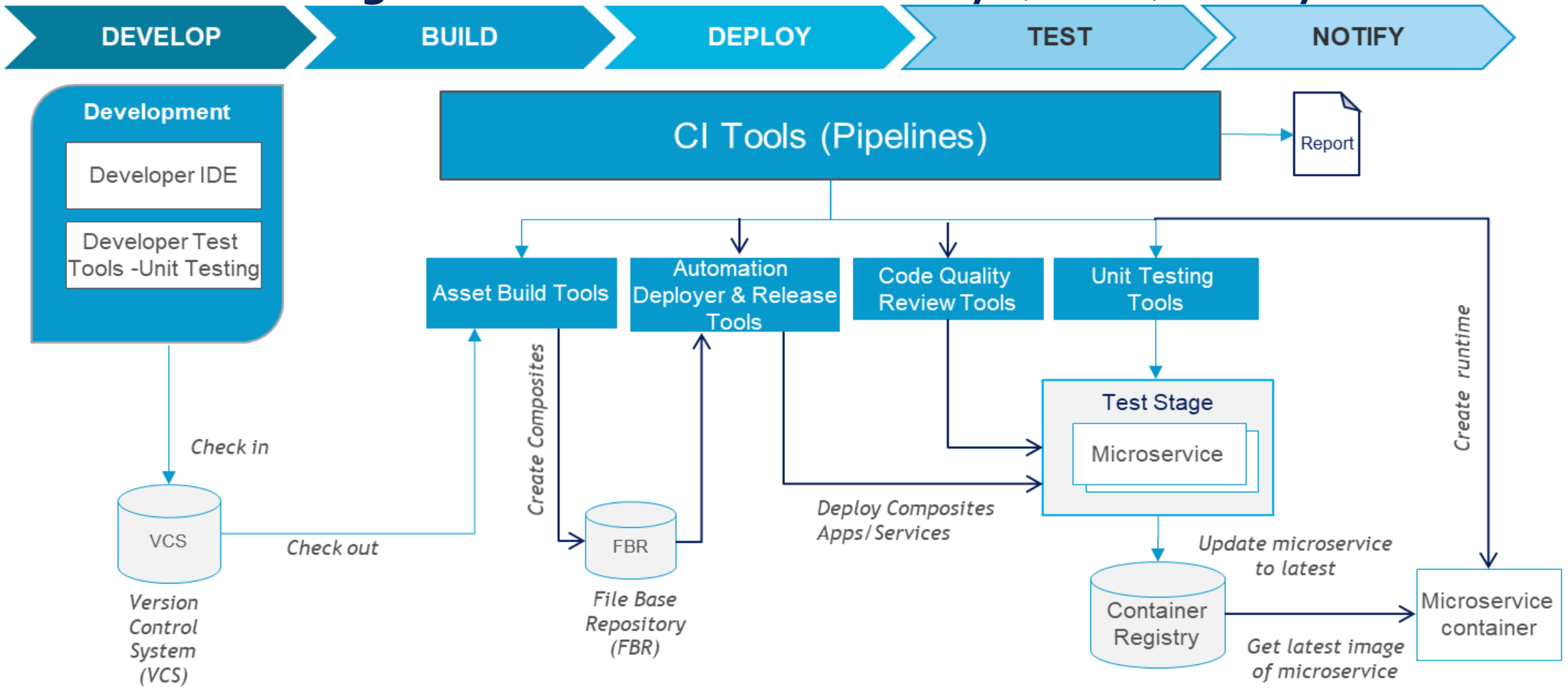
Agile - CI

Plan	Develop	Build	Test	Deploy	Operate
Backlog grooming, define user story, burnt down charts, security Requirement	Develop apps and services using version control, traceability, and CI	Manage, track and document all changes to application and configuration management	Automate test script execution including regression, user acceptance and security	Deploy apps and provision environments using automation & standardized configurations	Measure performance of environment and application
Tools	Jira, ALM Octane	eclipse, Visual Studio, webMethods	git, Bitbucket, Jenkins	sonarqube, Unified Functional Testing, Se, FORTIFY, ca technologies	RED HAT OPENSHIFT, Jenkins	splunk>

Objective

Tools

Continuous Integration – Continuous Delivery (CI/CD) Life Cycle



Muda - Waste

Simple statement to identify waste

"**If you are not adding value , then you are adding waste**"

How we eliminating waste?

- ✓ Start finishing stop starting or limit WIP (work in progress)
- ✓ Avoid hand-overs.

Mura - Reduce inconsistency

- ✓ Make everything as simple as possible

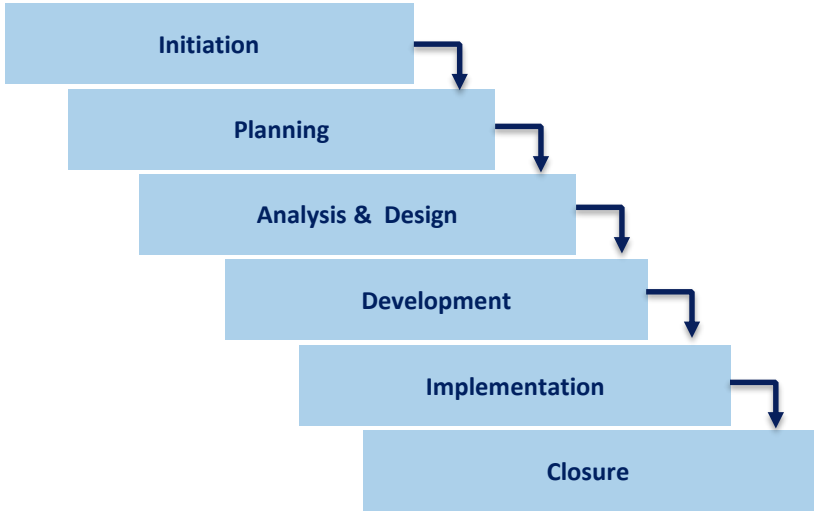
Muri – Overburden

Its represents the activities where processes, people machines are pushed beyond a reasonable limit.

- ✓ Remove bottlenecks

2-speed IT / Bimodal IT

Waterfall

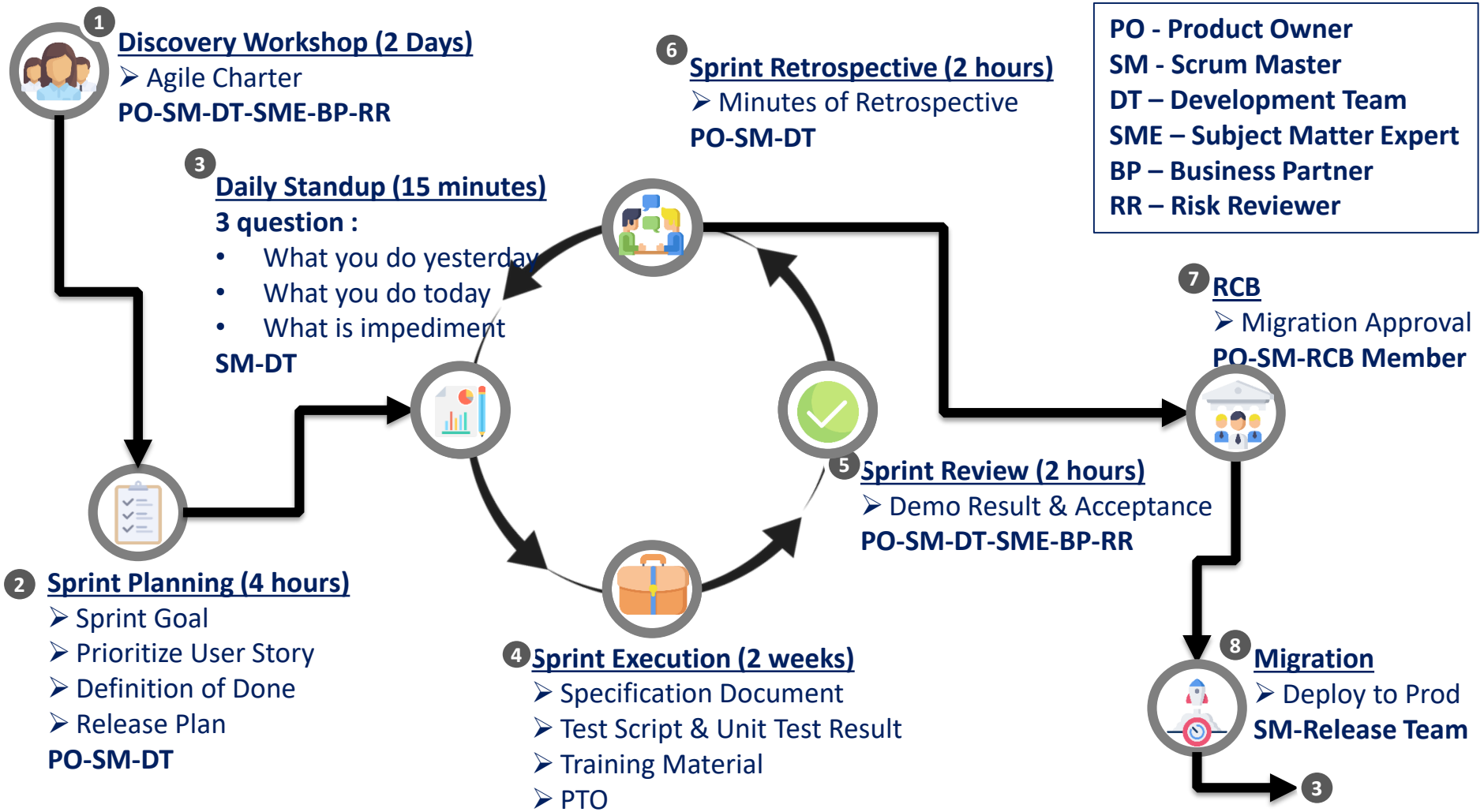


- **Clear expectation** and **fix requirement**
- **Minimal rate** of changes
- Focus on application that **required highest stability**
- **No Changes** while development

Agile

- **Evolving requirements** and **incremental delivery**
- **Frequent changes and faster time to market**
- **Customer oriented products and get early feedback**
- **Accommodate changes during development**

Our Agile Approach

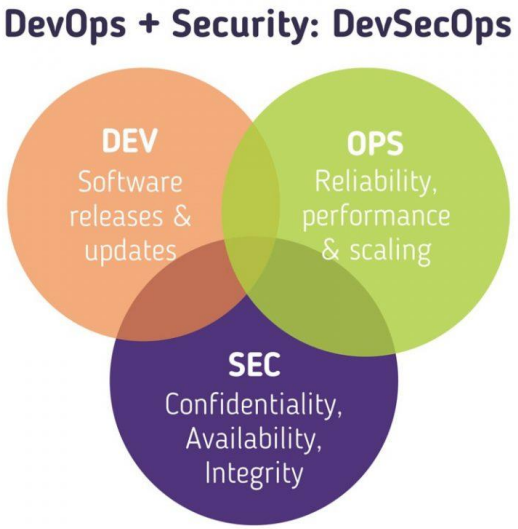


PO - Product Owner
SM - Scrum Master
DT – Development Team
SME – Subject Matter Expert
BP – Business Partner
RR – Risk Reviewer

	Description	Duration	Who Involved
Discovery Workshop	Defining user stories details, Plan to prepare the supporting infrastructure, acceptance criteria and also definition of done.	2 Days	Product Owner, Scrum Master, Development Team, SME, Risk Reviewer
Sprint Planning	Determine the stories that match the definition of ready to be prioritized and delivered in the next sprint.	4 Hours	Product Owner, Scrum Master, Development Team, SME
Sprint Execution	Start developing and create product increment	2 Weeks	Development Team,
Daily Stand Up	Align on three key questions within the team: what did you do yesterday, what will you do today, and/or are there any impediments?	15 Minutes	Development Team, SM (opt)
Sprint Review	Demo product increment, getting more feedback	2 Hours	Product Owner, Scrum Master, Development Team, SME
Retrospective	• Review the process from the last sprint: what went well, what didn't go well, what can we improve • Identify action to improve collaboration	2 Hours	Scrum Master, Development Team

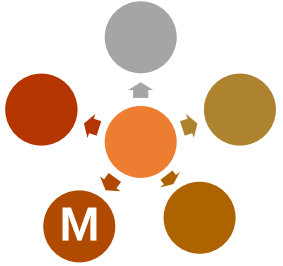
Security within software lifecycle

Plan	Develop	Test	Deploy	Operate
Security Req.	Source code review	VA/Pentest	Antivirus	SIEM
		Security Hardening		
		Patch Management		
Security Awareness				
Security guy as SME				



to **build** on the **mindset** that '**everyone** is **responsible** for security' with the **goal of safely distributing** security decisions at **speed and scale** to those who hold the highest level of context **without sacrificing** the safety required.

If you can't **measure**, then you don't know if you're **improving**!



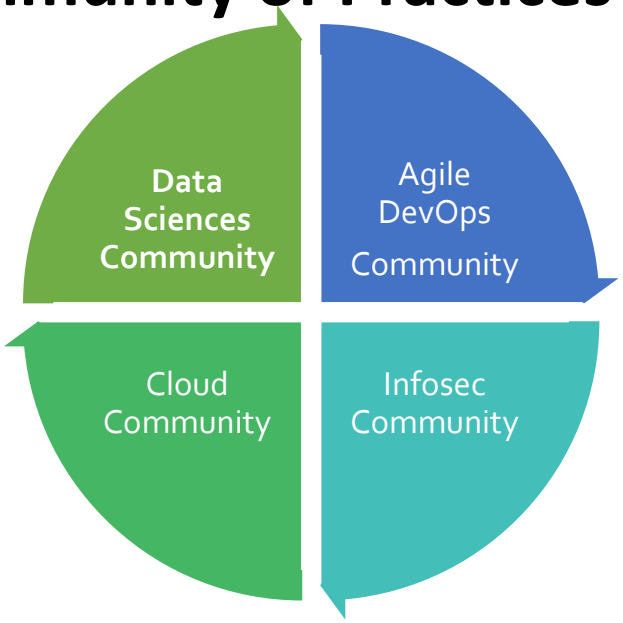
The essence of measure in DevOps, namely **capture** and **review** your metrics / measurements and then **take action**.

Measure methods
Logging and Monitoring Strategy

There are a number of useful reliability **KPIs** that can be captured:

- **MTTR (Mean Time To Recover/Restore)**
- **Change Fail rate**
- **% of Failed / Successful deployments**
- **Time in cycle**

Community of Practices to provide **sharing** values in Devops




Whatsapp or Telegram Group


Formal or Informal Meeting


Shared Web Space → I share / e-KMS

Benefits to **Members**	Build professional network of similar interests
	Access to expertise to seek help with work challenges
	Nurture personal development and professional identity
	Help to achieve meaningful work
Benefits to **Organization**	Foster capability building
	Enable knowledge sharing, retention, and reuse
	Support synergy across units
	Retention of talents

Our Community of Practices Activities - Sharing

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4 Challenges

Our Challenges

- ✓ People disconnect between delivery and application support
- ✓ Work in silos
- ✓ Handover is slow and complex limiting time to market

Devops Benefits

- ✓ Collaborations between delivery and application support
- ✓ Drive integration, repetability & realibility through automation
- ✓ Continous evaluation of practices and tools

- Cultural Change – resistance to change
- Regulatory aspect (Internal audit, Risk and Compliance and also OJK)

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Thank you
Keep CALMS
and
Do DevOps

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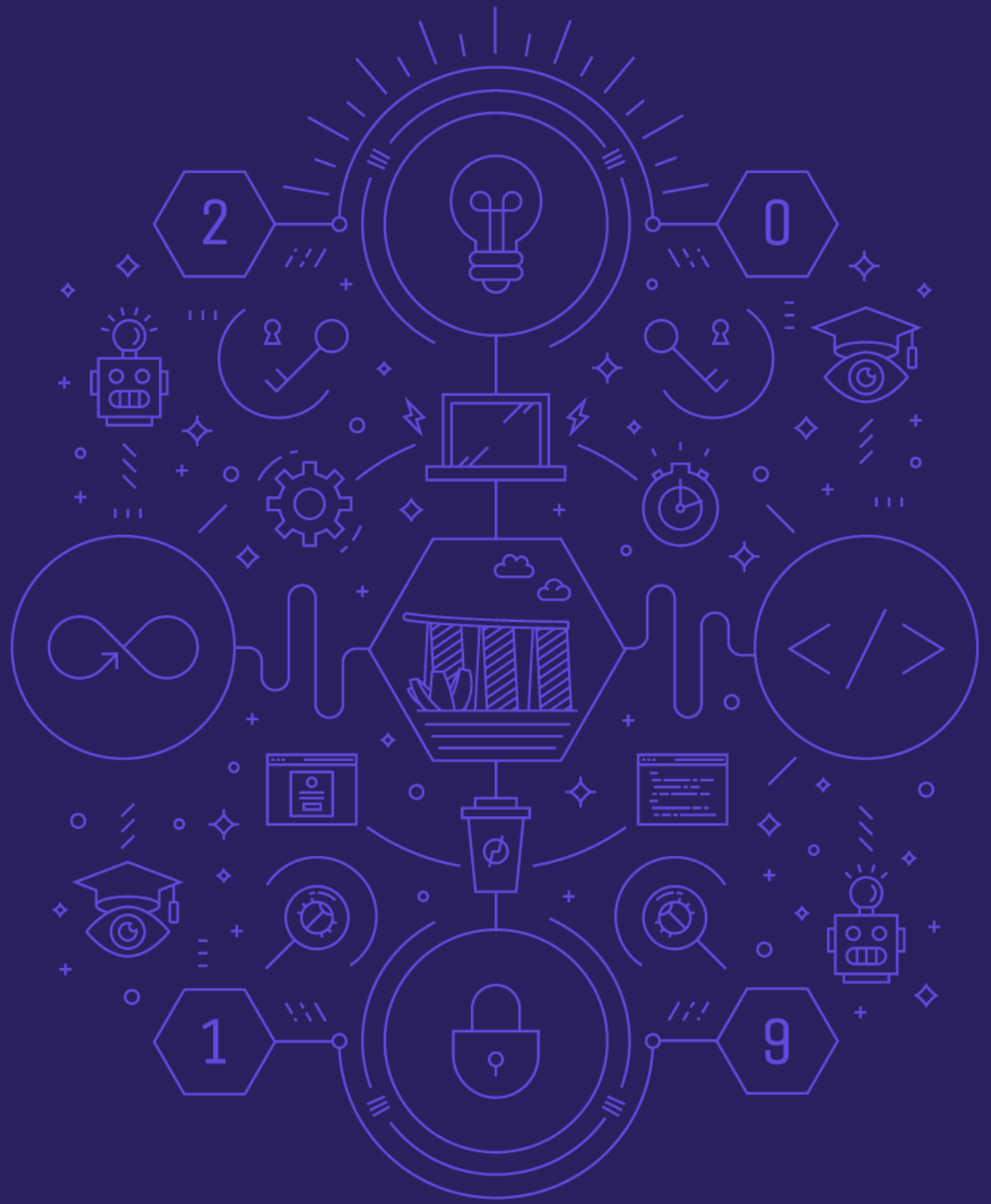
5 | Q n A



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