DevOps Assessment

Evolving and Managing at Scale

Context

Noesis is an IT consultancy company with DevOps engineers to lead you through your DevOps journey. Our services help customers get started with or extend their use of Azure by providing expertise, capabilities, and know-how that we have in-house or customers need to improve. That is, our services support customers in getting started with or extending their use of Azure.

We provide a 10-day DevOps assessment focused on identify and determine your company DevOps maturity level. The model is intended to provide a roadmap for your organization to follow as you progress on your DevOps journey, and to help identify areas where improvements can be made. Based on your technology stack and the current DevOps state we will provide you a report with the findings and your next steps, no matter if it's Azure DevOps, GitHub, Jenkins or Gitlab.

The assessment typically includes a review of existing processes, technology stack, and organizational culture to identify areas for improvement. The findings and recommendations can help organizations optimize their DevOps practices, enhance collaboration and communication, and ultimately improve their software delivery process.

Our Approach

With years of experience in solving huge problems of organizations in the business world, NOESIS catapults on providing custom-designed solution through our unique approach.

Through our DevOps automation consulting services enables client to integrate automation in their platforms and improves deployment pace. Our skilled DevOps consultants help you to standardize the infrastructure deployment process for better operational efficiency and deployment quality.

| COMPLETE ANALYSIS AND SCRUTINY OF THE REQUIREMENTS | IDENTIFYING PAIN POINTS AND CONSTRUCTING A BLUE PRINT | FINALIZING A STRATEGIZED PLAN | CRAFTING TAILOR MADE SOLUTION AND IMPLEMENTING | OBTAINING FEEDBACKS AND UPDATING |

An Automated Delivery Workflow

Our DEVOPS solutions focus on Change & Release Management, always integrated with client's system. The tools provide a standardised and automated approach to secure and manage our client's software assets.
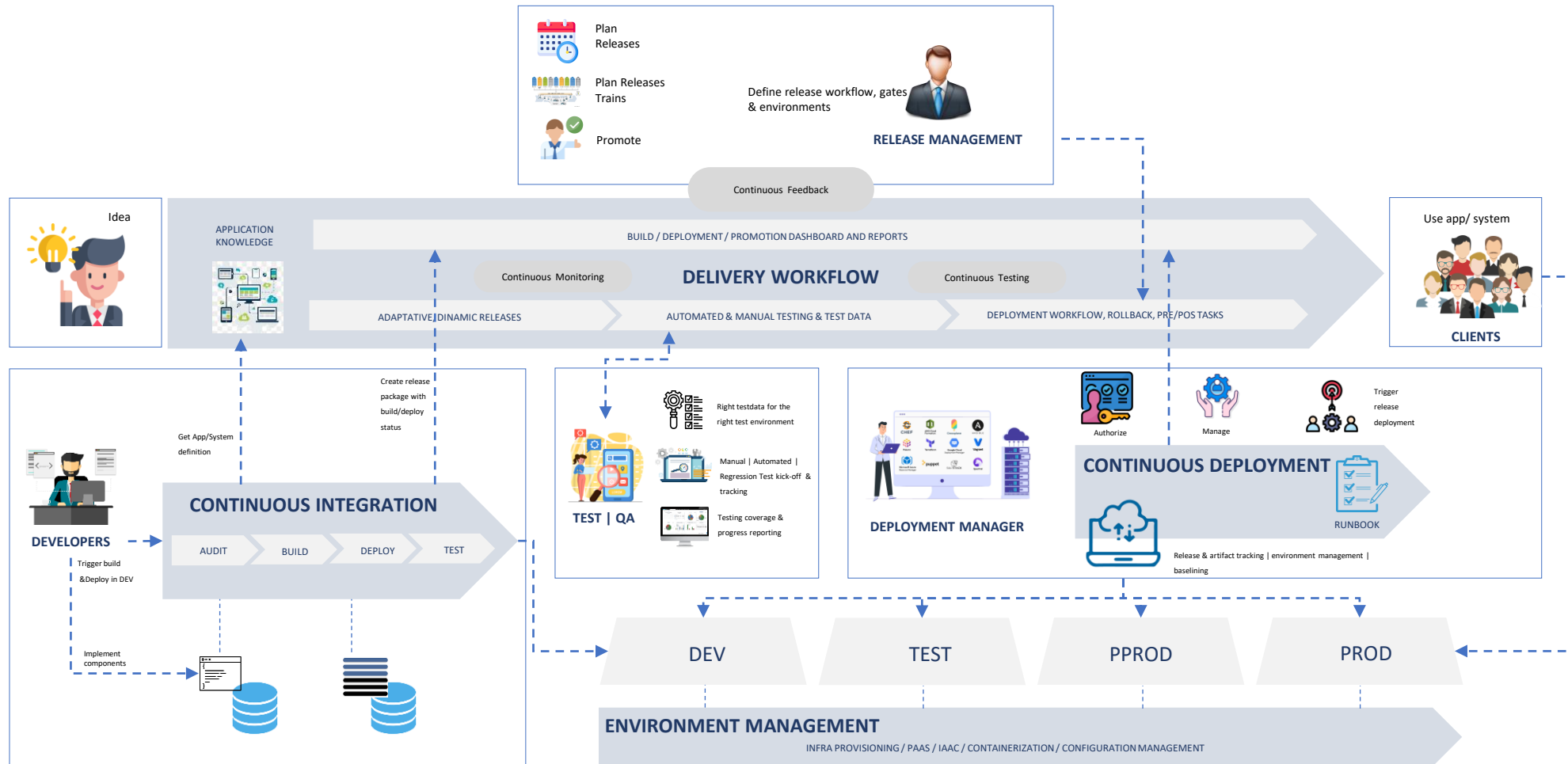
Plan the Transformation

Noesis offers DevOps transformation services to assist you with new innovations and adoptions to the changing market.

Our DevOps consulting experts will work with your team to design, build, implement and amplify your adoption of powerful technological practices with DevOps.

We successfully help you pull this off as we:

- o Create CI/CD pipeline
- o Build continuous delivery platforms
- o Accelerate automation capabilities
- o Design custom-made profiles
- o Develop your capabilities for future vision

You will be exposed to the best of outcomes like:

- o Seamless operation process
- o Uninterrupted change management
- o Improved developers' maturity
- o Successful continuous delivery cycle
- o Gained knowledge and increased capabilities

Some of the key benefits of digital transformation:

- o Increased productivity
- o Reduced time-to-market though systematic delivery
- o Increased resilience, efficiency, quality and agility
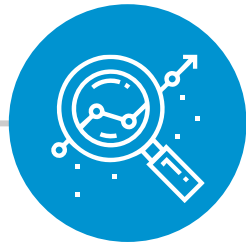- o Reduced risk by early identifying defects
- o Adherence to security and compliance

noesis
an **Altia** Company
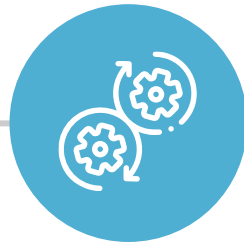
Design the Strategy

To outstrip the market competition and to stay ahead of the curve, you need to shift from traditional way to the cloud way, using devops strategy. For this, we will examine your on-going practice, infrastructure and pipelines to choose the best tools for the transformation. As you start your journey of DevOps implementation, we help you focus on laying the roadmap to structure the success criteria of your business.
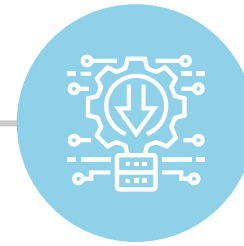
Initial Assessment   Post-Assessment Analysis   DevOps Tools Selection   Integration and Monitoring   Review and Feedback

The Assessment

Rollout Plan

If you are yet to embrace DevOps or want to advance your existing DevOps journey, our experienced DevOps consultants will help you do that with strategic planning and application of the DevOps culture. Our service caters to specific and customized needs to produce appropriate results throughout the cycle of DevOps transformation.

| Research and understand your software delivery | Identify your infrastruture's strengths | Find out lag points in processes | Assess your work style and identify skillset | Derive constructive planning and guidance | Provide suitable solutions and assistance |

noesis
an **Altia** Company

Design your maturity

Study and conceptualise

> Study the existing release management process;
> Identify the groups involved in released management and related workflows;
> Evaluate the volume and complexity of applications deployed;
> Audit the security of existing applications release;
> Understand the tools used for release management and identify gaps.
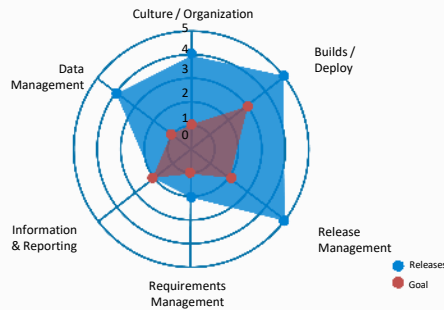
Design, build and implement

> Identify areas where automation can be implemented for environment provisioning;
> Implement continuous integration and orchestration tools;
> Automate application deployment;
> Automate migration of application across environments;
> Ensure control points are implemented in release management tools;
> Plug the security gaps in the process through checkpoints like authorization by project leads and release managers.
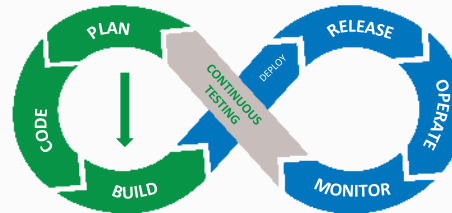
Continuous Monitorization

> Check sanity of deployed applications, error rates;
> Audit the application release management process and provide feedback to the implementation team for changes in the workflow;
> Monitor post deployment errors;
> Identify root causes and provide feedback to the DevOps implementation team.
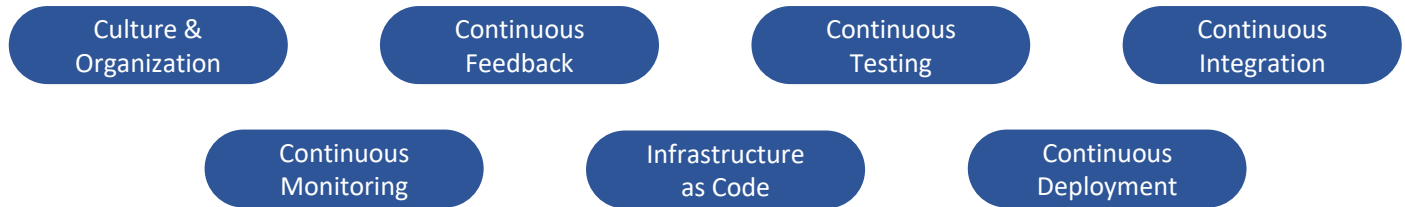
noesis
an Altia Company

Design your Maturity

Assessment phase will use data from tools and interviews to understand both the current maturity level and required maturity level

Model composed of **five maturity levels**, through the analysis of seven areas of quality, customised by client. For each level there will be some key goals that have to be achieved to reached that specific level and enable to go on to the next one
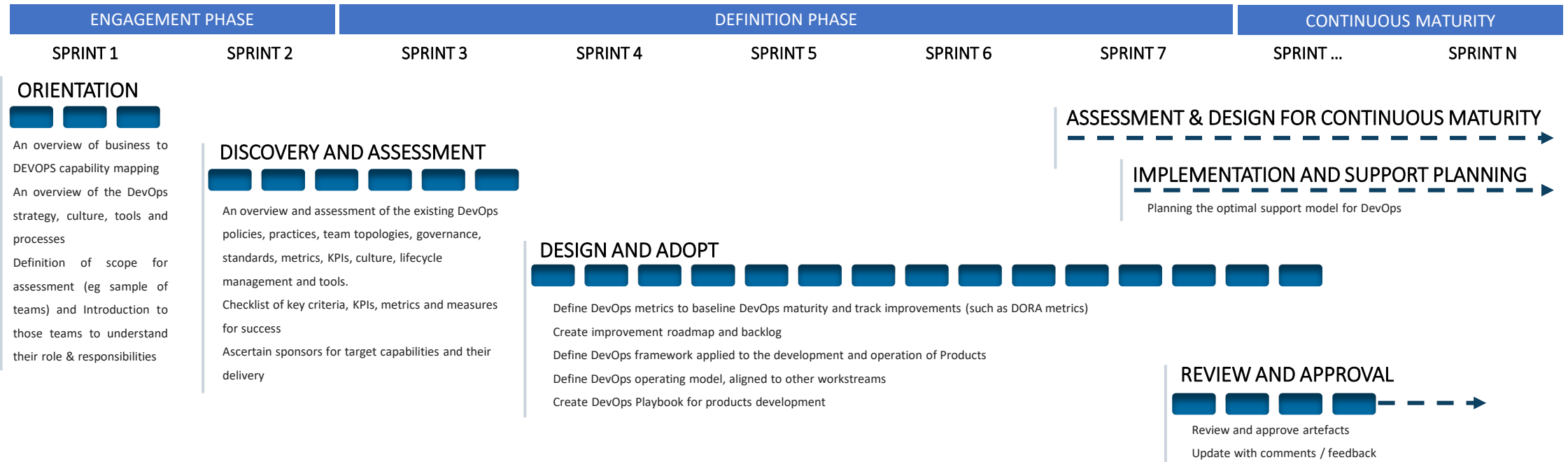
	CULTURE	PROCESS	PEOPLE	TECHNOLOGIES
LEVEL-5 OPTIMIZED	• Articulated business strategy • Clear business requirements • Rapid feedback • Ownership mindset	• Distributed orchestration • Performance management • Continuous deliveries • Six Sigma • Continuous testing • Predictive reporting	• Interdisciplinary teams • KPI-centric teams • Continuous education • Common knowledge transfer	• Tooling as a product • Toolset optimization • Self services
LEVEL-4 OPERATIONALLY MANAGED	• **Articulated business vision** • **Clear product requirement** • **Frequent collaborative communication** • **Strategic innovation**	• Complex orchestration • Frequent deliveries • Lean development • Qualitative testing • Strategic reporting	• Maintain orchestration • Product-centric teams • In-level tech skills • Common knowledge	• Analytics and intelligence • Self-healing • Continuous deployment
LEVEL-3 DEFINED	• **Articulated business goals** • **Clear project requirements** • **Rapid Inter-team communication** • **Innovation by design**	• Simple orchestration • Automated deliveries • Automated testing • Innovation by design • Integrated testing • Consolidated reporting	• Maintain scripts and creating orchestration • Project-centric teams • In-level tech skills	• Knowledge management • Toolset integration • Build/Test automation • Integrated monitoring • Continuous delivery • Automated env. creating
LEVEL-2 MANAGED	• **Clear delivery requirements** • **Rapid intra-team communication** • **Innovation on demand**	• PM • Scheduled deliveries • Agile • Simple Scripting • Requirements based testing • Reporting on demand	• Maintaining scripts • Delivery-centric teams • In-level tech skills • Knowledge base	• Project planning tools • Core monitoring • Build automation • Functional tooling testing • Standardized environment build
LEVEL-1 INITIAL	• **Uncommunicated vision** • **Restricted communication** • **Sub-innovating**	• Manual process • Inconsistent deliveries • Ad-Hoc testing • Inconsistent reporting	• Working on tickets • Silos • Exclusive knowledge	• No collaboration tools • No Automation • Manual environment build • Manual testing

Culture & Organization

Continuous Feedback

Continuous Testing

Continuous Integration

Continuous Monitoring

Infrastructure as Code

Continuous Deployment

noesis
an Altia Company

Define a Roadmap

Assessment phase will use data from tools and interviews to understand both the current maturity level and required maturity level.

TO-BE SCHEDULE

ENGAGEMENT PHASE		DEFINITION PHASE						CONTINUOUS MATURITY	
SPRINT 1	SPRINT 2	SPRINT 3	SPRINT 4	SPRINT 5	SPRINT 6	SPRINT 7	SPRINT ...	SPRINT N	

ORIENTATION

An overview of business to DEVOPS capability mapping

An overview of the DevOps strategy, culture, tools and processes

Definition of scope for assessment (eg sample of teams) and Introduction to those teams to understand their role & responsibilities

DISCOVERY AND ASSESSMENT

An overview and assessment of the existing DevOps policies, practices, team topologies, governance, standards, metrics, KPIs, culture, lifecycle management and tools.

Checklist of key criteria, KPIs, metrics and measures for success

Ascertain sponsors for target capabilities and their delivery

DESIGN AND ADOPT

Define DevOps metrics to baseline DevOps maturity and track improvements (such as DORA metrics)

Create improvement roadmap and backlog

Define DevOps framework applied to the development and operation of Products

Define DevOps operating model, aligned to other workstreams

Create DevOps Playbook for products development

ASSESSMENT & DESIGN FOR CONTINUOUS MATURITY

IMPLEMENTATION AND SUPPORT PLANNING

Planning the optimal support model for DevOps

REVIEW AND APPROVAL

Review and approve artefacts

Update with comments / feedback

noesis
an Altia Company

The Assessment
Define a Roadmap

Assessment phase will use data from tools and interviews to understand both the current maturity level and required maturity level.
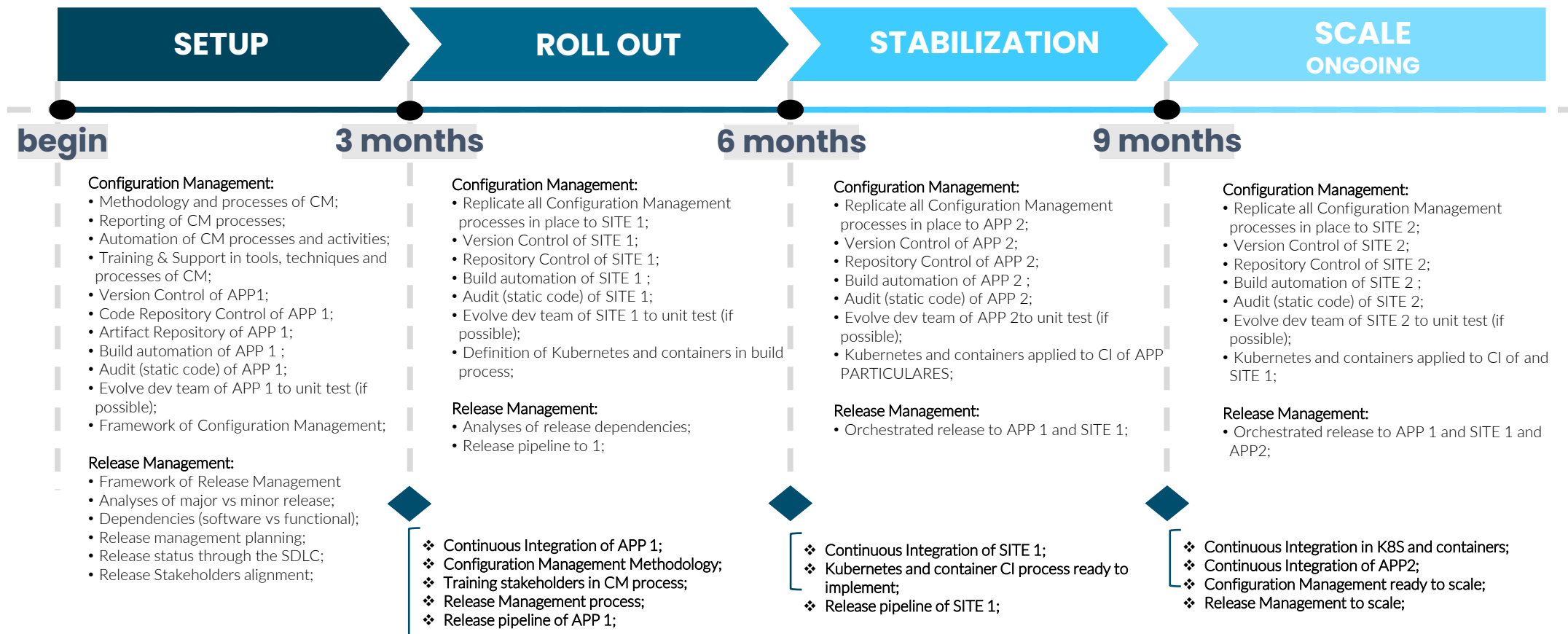
TO-BE ROADMAP EXAMPLE

SETUP	ROLL OUT	STABILIZATION	SCALE ONGOING

begin — **3 months** — **6 months** — **9 months**

Configuration Management:
- Methodology and processes of CM;
- Reporting of CM processes;
- Automation of CM processes and activities;
- Training & Support in tools, techniques and processes of CM;
- Version Control of APP1;
- Code Repository Control of APP 1;
- Artifact Repository of APP 1;
- Build automation of APP 1 ;
- Audit (static code) of APP 1;
- Evolve dev team of APP 1 to unit test (if possible);
- Framework of Configuration Management;

Release Management:
- Framework of Release Management
- Analyses of major vs minor release;
- Dependencies (software vs functional);
- Release management planning;
- Release status through the SDLC;
- Release Stakeholders alignment;

Configuration Management:
- Replicate all Configuration Management processes in place to SITE 1;
- Version Control of SITE 1;
- Repository Control of SITE 1;
- Build automation of SITE 1 ;
- Audit (static code) of SITE 1;
- Evolve dev team of SITE 1 to unit test (if possible);
- Definition of Kubernetes and containers in build process;

Release Management:
- Analyses of release dependencies;
- Release pipeline to 1;

❖ Continuous Integration of APP 1;
❖ Configuration Management Methodology;
❖ Training stakeholders in CM process;
❖ Release Management process;
❖ Release pipeline of APP 1;

Configuration Management:
- Replicate all Configuration Management processes in place to APP 2;
- Version Control of APP 2;
- Repository Control of APP 2;
- Build automation of APP 2 ;
- Audit (static code) of APP 2;
- Evolve dev team of APP 2to unit test (if possible);
- Kubernetes and containers applied to CI of APP PARTICULARES;

Release Management:
- Orchestrated release to APP 1 and SITE 1;

❖ Continuous Integration of SITE 1;
❖ Kubernetes and container CI process ready to implement;
❖ Release pipeline of SITE 1;

Configuration Management:
- Replicate all Configuration Management processes in place to SITE 2;
- Version Control of SITE 2;
- Repository Control of SITE 2;
- Build automation of SITE 2 ;
- Audit (static code) of SITE 2;
- Evolve dev team of SITE 2 to unit test (if possible);
- Kubernetes and containers applied to CI of and SITE 1;

Release Management:
- Orchestrated release to APP 1 and SITE 1 and APP2;

❖ Continuous Integration in K8S and containers;
❖ Continuous Integration of APP2;
❖ Configuration Management ready to scale;
❖ Release Management to scale;

DevOps Assessment

Agenda

OUR VISION & APPROACH

RUNNING CASES

Running Cases - #1

CLIENT CHALLENGE

Standardization and modernization of the SDLC after company merge, following a DevOps approach.

Centralize code, artifacts and environment properties mgmt. with security validation.

Exponentially increase the automation level of software scan, build, test and deploy.

Implement an agile and dynamic framework that responds to new needs regardless of technology and architecture.

Leverage a new global Release mgmt. (legacy incl.) and posterior improved deploy mgmt.

HOW NOESIS HELPED

Implement a (Jenkins) CI/CD Pipeline with SCA, automated tests, automated deploys and multi-security validations.

Framework infrastructure and all build environments based on Kubernetes/Docker technology.

Installed and manage Gitlab/Github and Jfrog Artifactory to centralize sources and artifacts.

Designed and implemented customized processes and policies on the DevOps framework.

Provided integration with the latest and "sexiest" technology tendencies (IaaC and Cloud).

Continuous training, support and joint effort improvement of the Solution (As a Service).

VALUE CREATED

All the advantages of an automated CI/CD Pipeline with centralized mgmt. and control.

Laid the foundations of a new and improved Release mgmt. and future deploy mgmt.

Provide a future-ready global process that provides a trusted partnership with future

noesis
an Altia Company
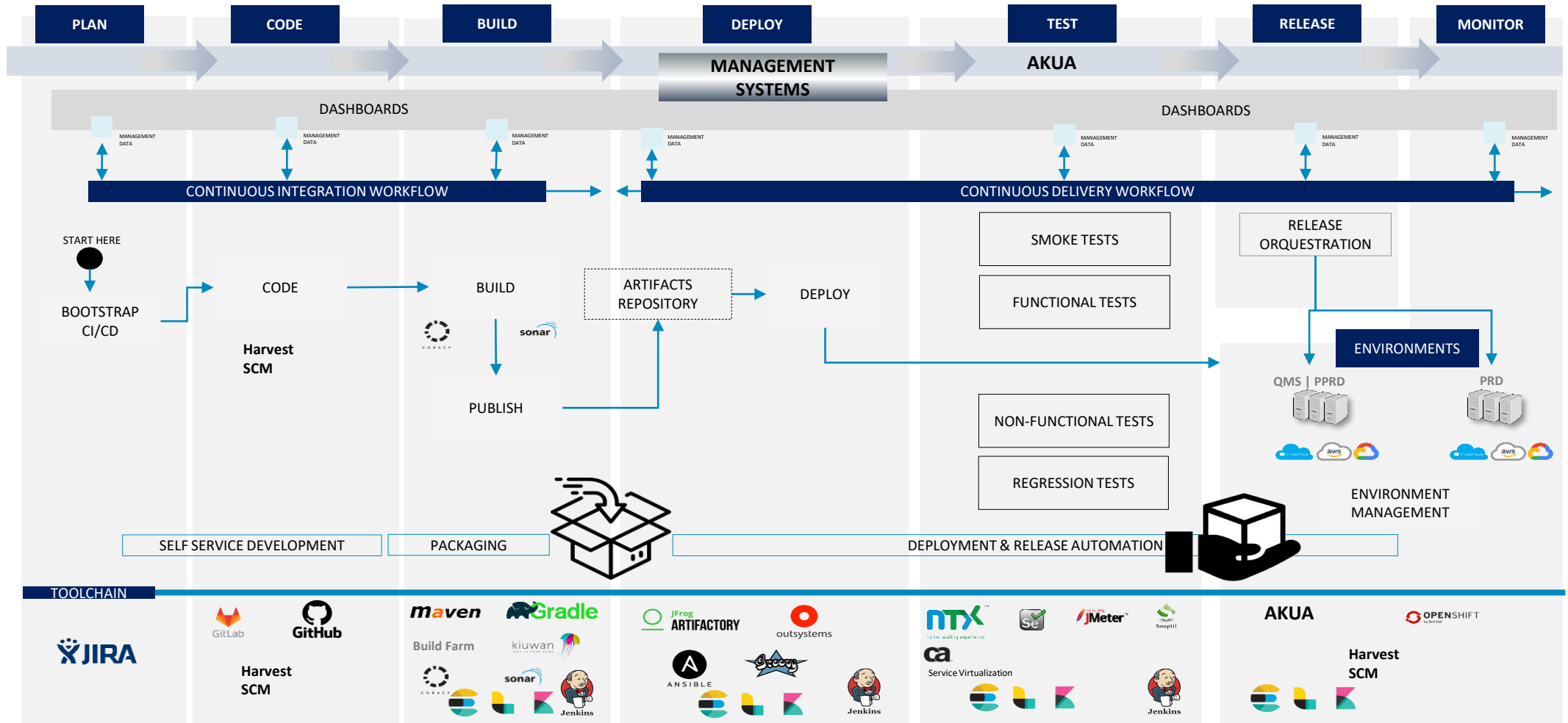
Running Cases - #1

Running Cases - #2

CLIENT CHALLENGE

Needed to adapt the process to make it more unified, structured and improved.

HOW NOESIS HELPED

Analysis of the existing architecture.

Configuration of pipelines in Azure DevOps according to best practices.

Use of variables in Azure DevOps for application runtime configuration files.

Reduce time to deploy pipelines and consequent time to market.

Configuration of deployment pipeline for on-prem servers.

Implement rollback.

Roles configuration.

VALUE CREATED

Configuration of a new Azure DevOps CI/CD pipeline and standardization of releases per environment.

noesis
an **Altia** Company
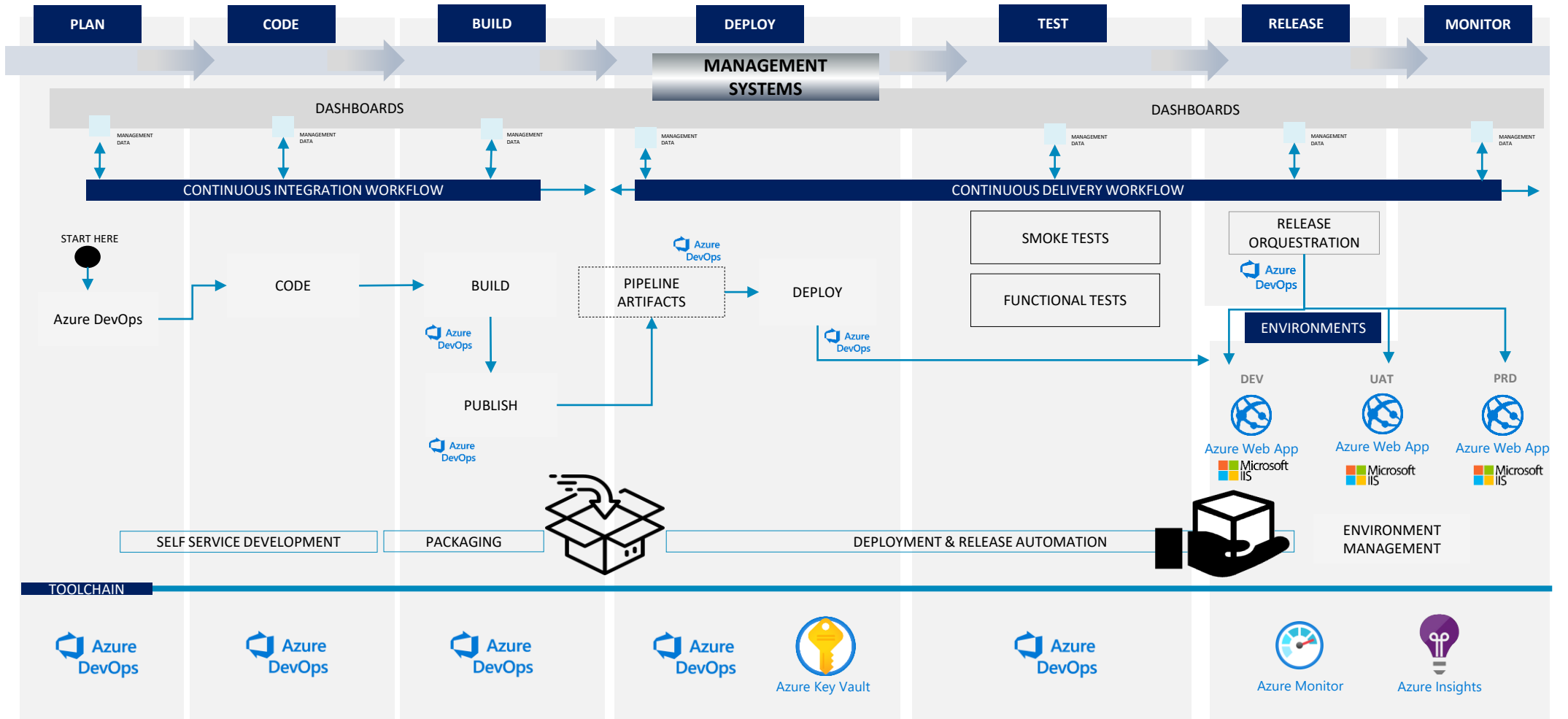
Running Cases - #2

Running Cases - #3

CLIENT CHALLENGE

Creation of CI/CD pipelines in Azure DevOps for a new project

HOW NOESIS HELPED

Configuration of pipelines in Azure DevOps according to best practices.

Use of variables in Azure DevOps for application runtime configuration files.

Reduce time to deploy pipelines and consequent time to market.

Build docker images.

Configuration of deployment pipeline for Azure Container Instances.

VALUE CREATED

Configuration of Azure DevOps CI/CD pipelines.

Running Cases - #3
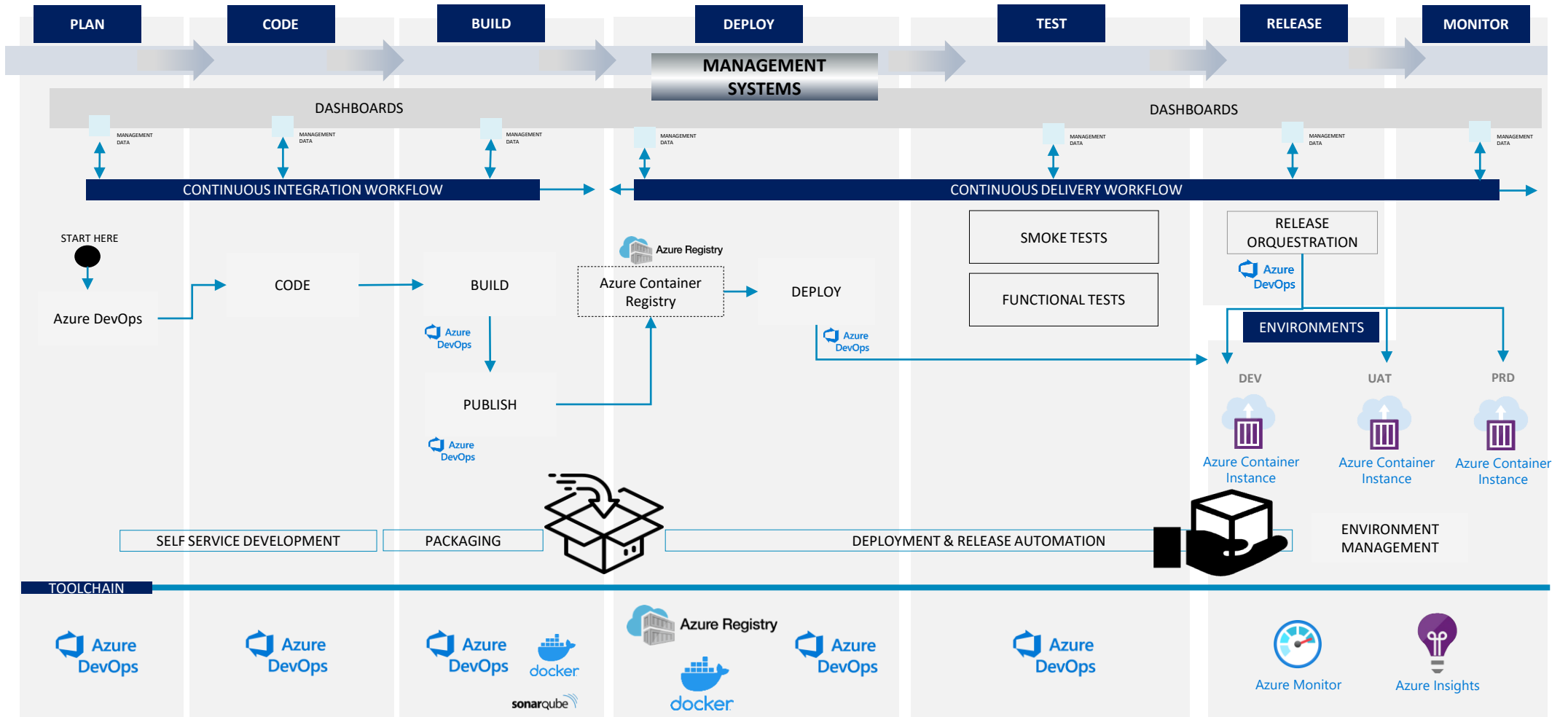
Running Cases - #4

CLIENT CHALLENGE

Increase the maturity level of the DevOps culture.

HOW NOESIS HELPED

1st Phase: Create processes using existing tools for software development lifecycle management.

2nd Phase: Use Docker for parallelization and build management.
Start to create tracking mechanisms.
Use Jira + Xray for test management.

3rd Phase: Develop load and performance tests.
Use docker for non-production environment deployments.

4th. Phase: Kubernetes for container management and progress for non-production deployments.

VALUE CREATED

All the advantages of an automated CI/CD Pipeline with centralized mgmt. and control.

Laid the foundations of a new and improved Release mgmt. and future deploy mgmt.

Provide a future-ready global process that provides a trusted partnership with future

Running Cases - #4
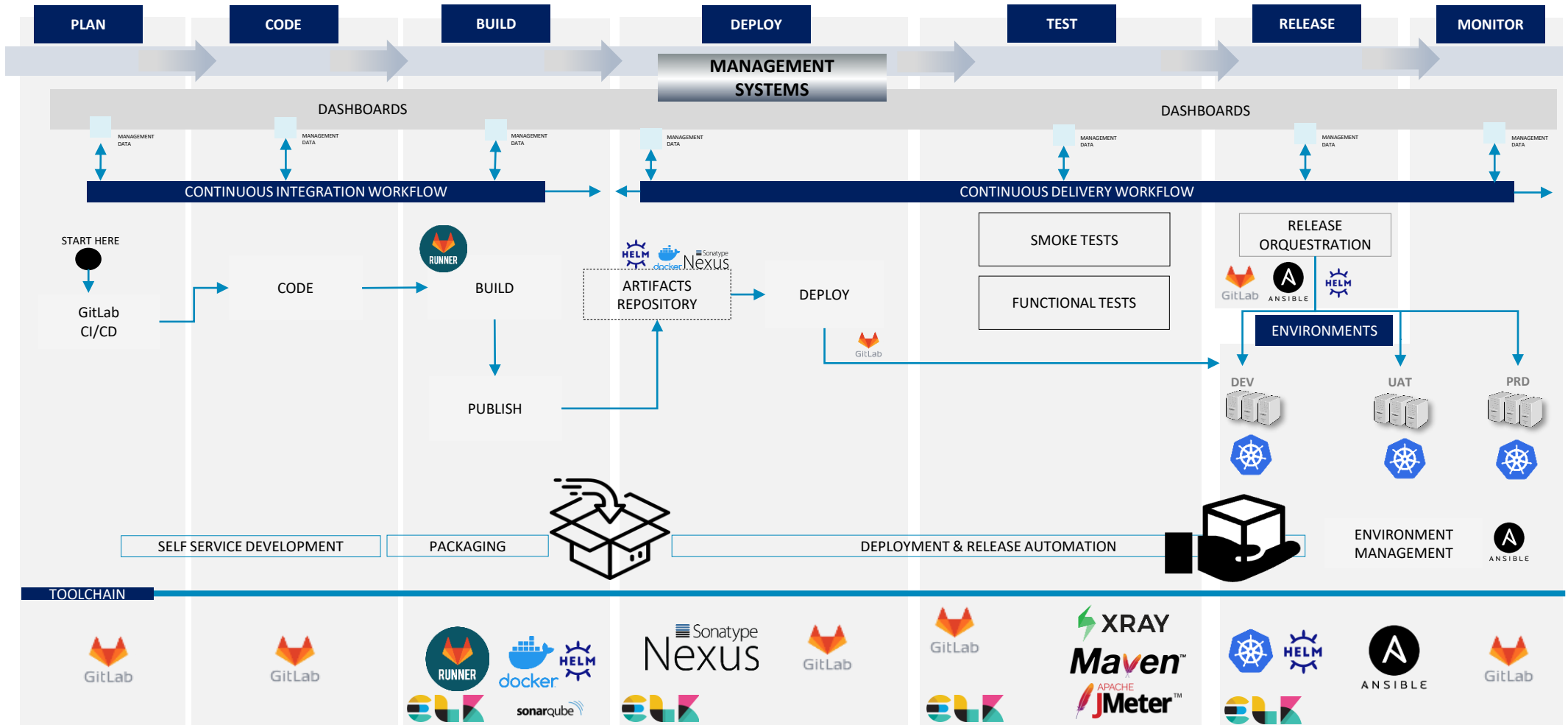
Running Cases - #5

CLIENT CHALLENGE

Reduce the effort of manual installations on teams.

Versioning all changes in the environment.

Decrease the creation of root accesses and stabilize the use of test equipment.

HOW NOESIS HELPED

Creating a pipeline that helps deliver code to be installed automatically.

Leaving manual tasks behind.

Creating a tool that configures test equipment without giving root access.

Execution of previously parameterized tests in the NTX tool.

VALUE CREATED

Faster delivery process in production.

Greater efficiency between teams when carrying out installations.

Reboot the installation process in order to reduce errors in environments.

Better reporting and metrics of the entire installation process.

Centralization of a tool for the entire software delivery process, with cost reduction for the customer.

Implement procedures for all teams to deliver software efficiently.

Running Cases - #5
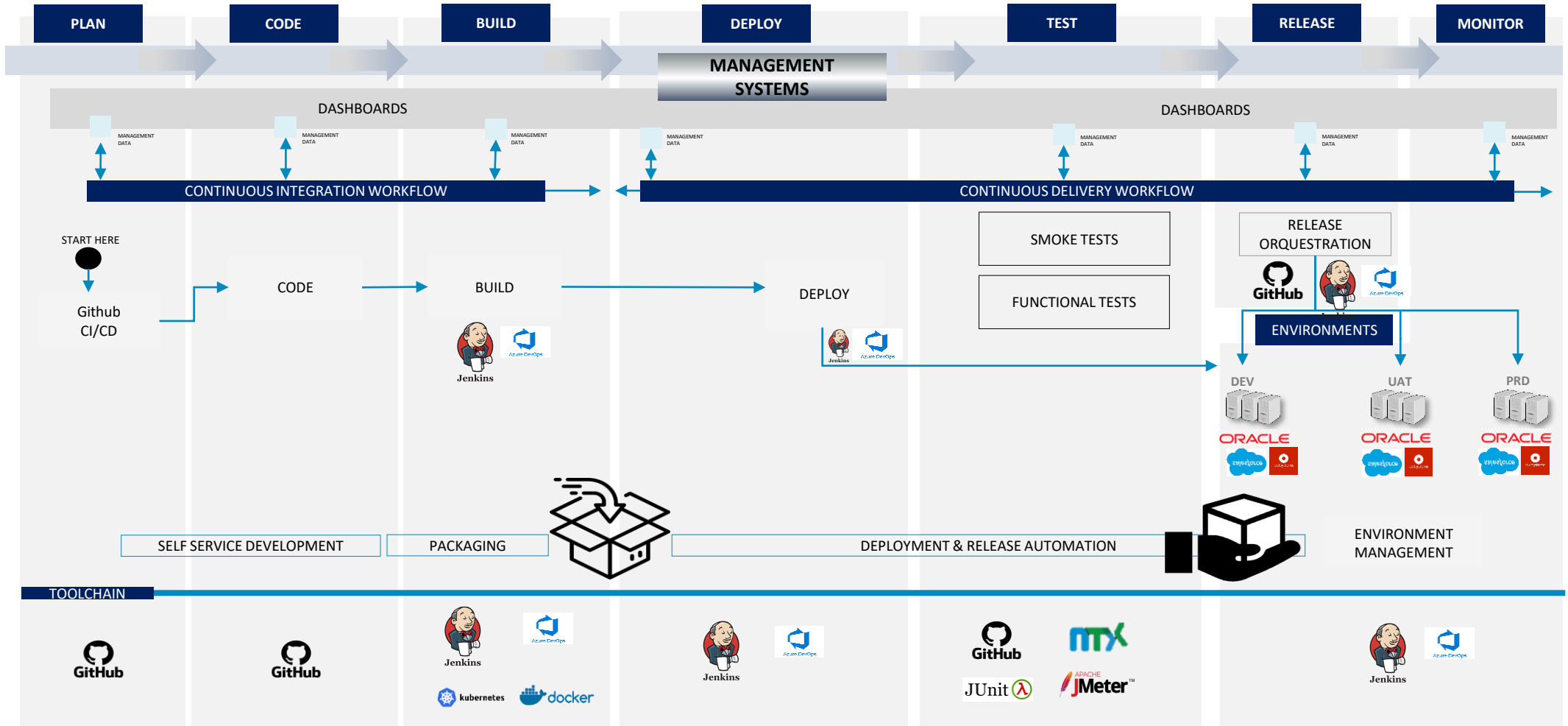
CLIENT CHALLENGE

Create a CI/CD Pipeline to facilitate the continuous innovation and enhancement by enabling verification, testing and deployment of new objects to several environments (DEV, UAT, PRD, TRN) across a range of virtualized clusters and hosts.

Provide a DevOps framework supporting both revision control, issue tracking, seamless dashboards with CI Metrics and secure DevOps.

The created framework should be compatible with the Agile methodology.

Migrate all existing objects from the old version control tool to the new one.

HOW NOESIS HELPED

Install Gitlab (Ultimate) and Flexdeploy to support the idealized framework.

Gitlab processes ensure all source code/change/test/release managements.

Customized Gitlab dashboards and branch policy provides Agile methodology.

Flexdeploy automatically executes (and logs) Build & Deploy, triggered by Gitlab merge requests.

Full training, continuous support and joint effort improvement of the Solution.

VALUE CREATED

Laid the foundations of a new and improved Release mgmt. and future deploy mgmt.
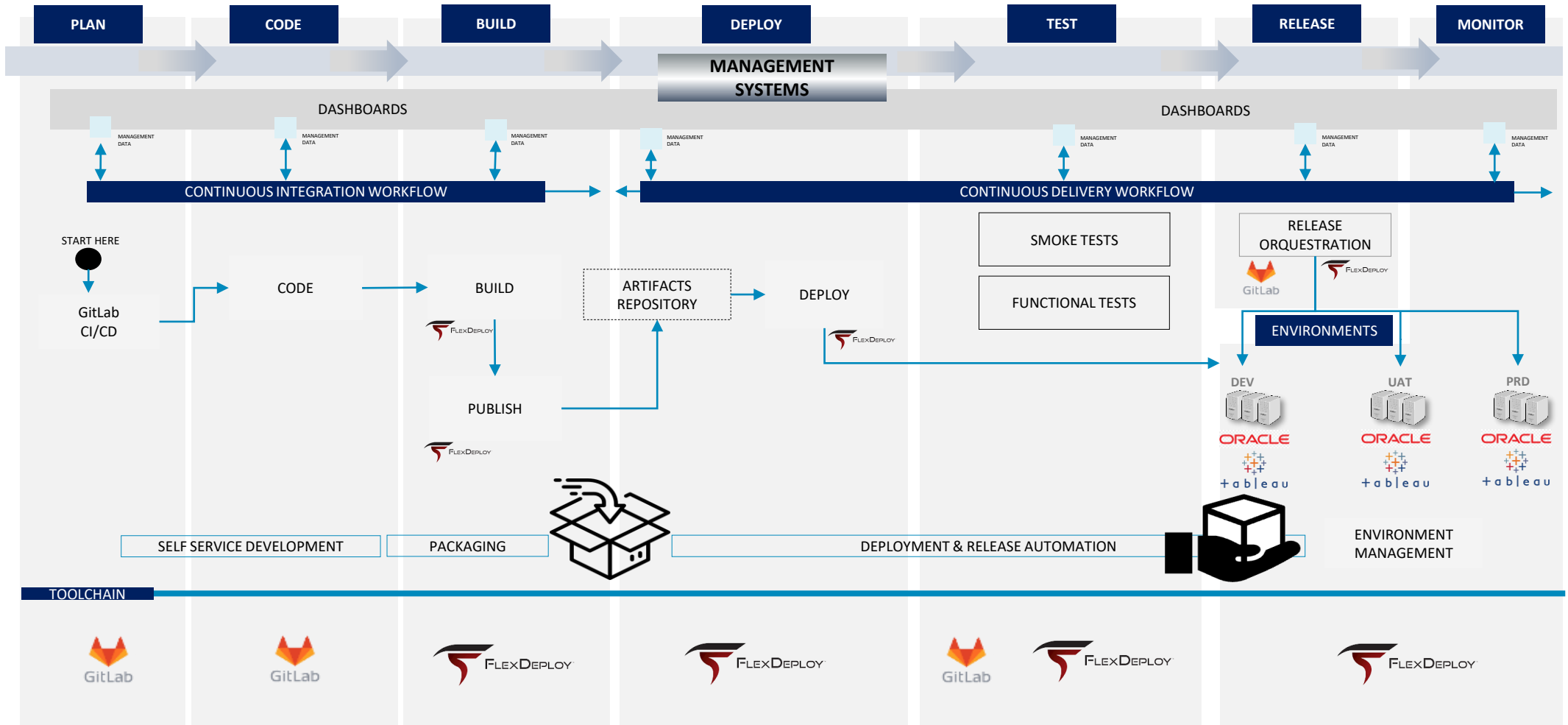
Provide a future-ready global process that provides a trusted partnership with future

All the advantages of a fully automated CI/CD Pipeline with centralized management and control.

The delivered Framework made possible the much-desired leap to Agile methodology.

Running Cases - #7

an **Altia** Company