



AI & DevOps pipeline

How these two live together



Platinum
Solution Partner



aws partner network
Advanced Consulting Partner

Microsoft Partner
Microsoft

Gold DevOps
Gold Application Development

Eficode in a Nutshell

We are group of 340 DevOps coaches, engineers, and Cloud specialists building the best software driven organizations in the world.

In practice, this means hundreds of Devops audits, DevOps transformation programmes, and DevOps platform implementations....

We are building communities of practises inside our customers and helping them to choose best of the breed tooling as part of their Digital and Cloud transformation journeys.

Industry recognitions: Atlassian DevOps Partner of the year (2018,2019) - Gartner DevOps Hypecycle 2020 Sample Vendor (VSMP).

340

PROFESSIONALS

97%

CUSTOMER SATISFACTION

+30 M

€

TURNOVER 2019-2020

100+

ANNUAL PROJECTS

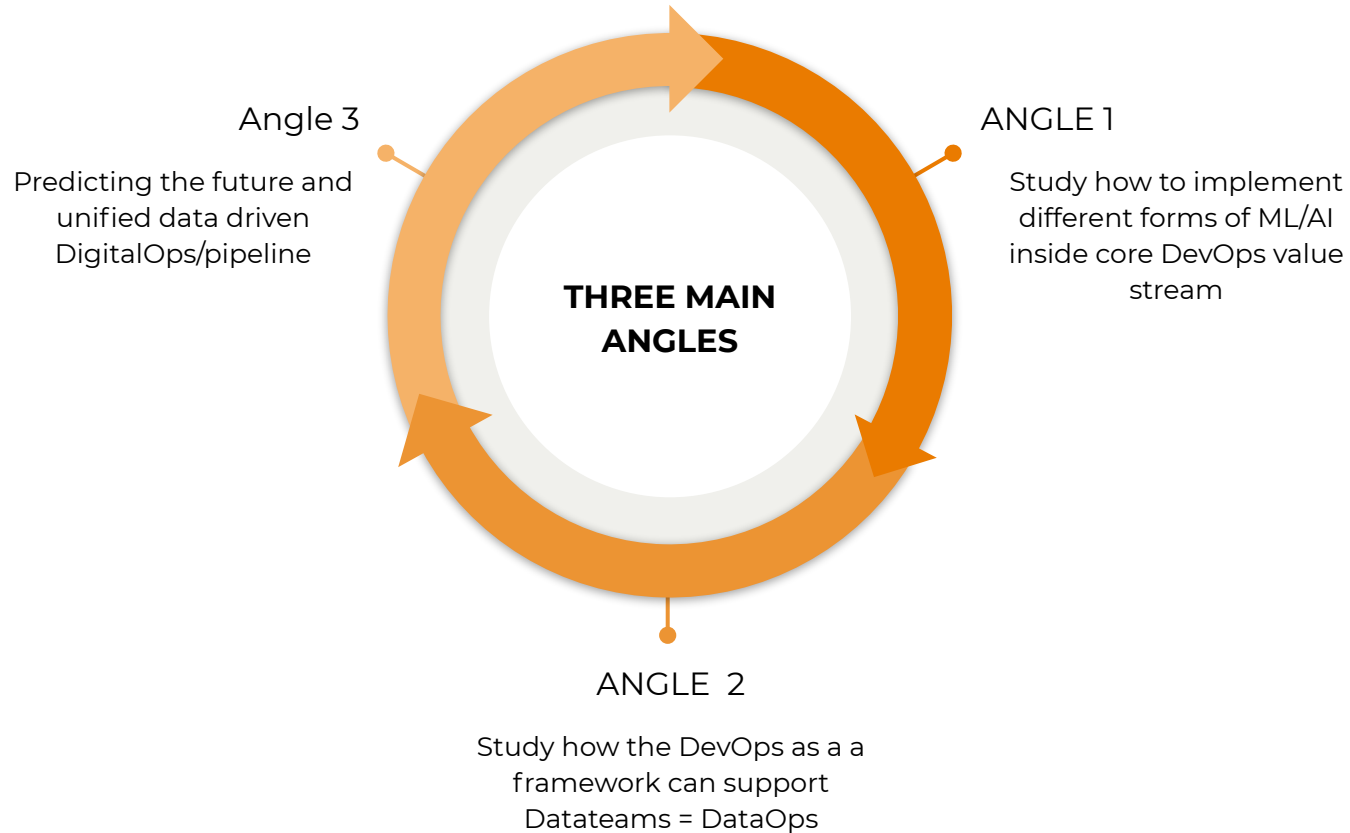
2007

13 years of Devops

11

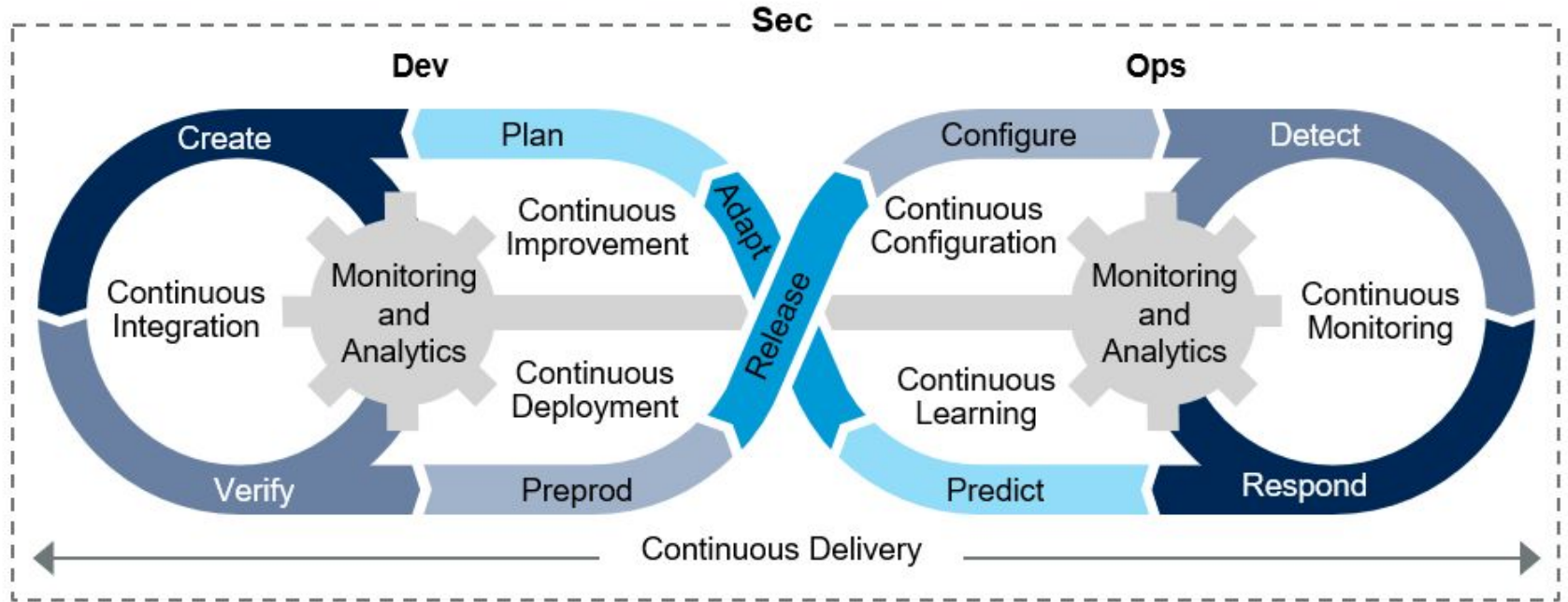
EUROPEAN OFFICES

WHY?



DevOps value cycle

DevOps Is a Continuous Cycle



EFICODE'S APPROACH

2017- 2020 and beyond

- Clear vision that Eficode needs to understand what are the use cases for ML/AI inside DevOps Valuestream....although a lot of skepticism in the team..
- Most of the early VC funding went to testing companies like Diffblue, Testim or not so many to CI/CD players
- Eficode introduces AI as part of the programme of DevOps2018 conference (powered by Eficode, +500 participants) - still adoption rate slow).
- Eficode started co-op with Finnish AI Startup Silo.Ai to dig deeper and understand the future possibilities
- Next to that projects and findings...



Find a partner...



SILO.AI

ARTIFICIAL INTELLIGENCE AS A SERVICE


EFICODE
WORKSHOP



Use framework that works..

6-STEP FRAMEWORK TEMPLATE

0. THE VISION

- 1. BUSINESS OBJECTIVE** 
1. ... business impact of the AI opportunity
 2. ... business processes it concerns

- 3. DATA UNDERSTANDING**
1. ... data that would be needed
 2. ... hypotheses in the data for modeling

- 5. DATA PREPARATION**
1. ... possible issues in data quality
 2. ... possible issues in data integration

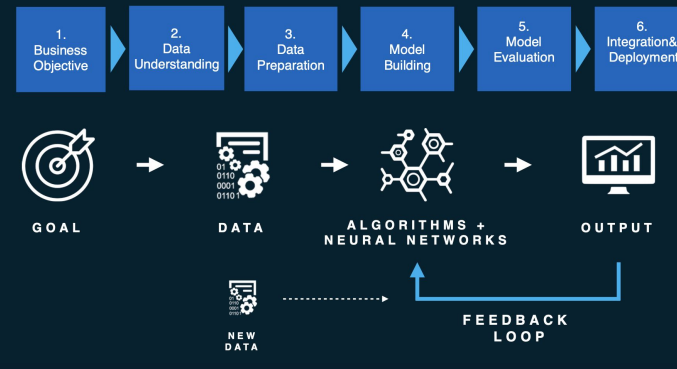
- 4. MODELING**
1. ... tasks that models should learn
 2. ... necessary assumptions for models to work

- 6. EVALUATION**
1. ... metrics used to evaluate models
 2. ... business objectives defining a good-enough model

- 8. DEPLOYMENT**
1. ... interfaces used to interact with models
 2. ... necessary model maintenance



SILO.AI 6-STAGE PROCESS FOR AI OPPORTUNITIES



Find use cases...

EFICODE AI USE CASES

- **Early warnings model**
 - Provides predictions of project schedules and alerts if risks for delay
- **Test case short list**
 - Minimises the time to find critical errors by suggesting tests for early test sets
- **Test recommendations & missing test analysis**
 - Suggests tests that should be reviewed or added based on code changes and possible missing tests.
- **Executive level project visualization**
 - Combines hundreds of metrics in a single "good-bad" view tracking projects real time
- **DevOps maturity dashboard**
 - Suggest which parts of devops are not working well based on several indicators
- **Error root cause suggestions**
 - Suggest probable causes for errors for user to check first
- **AI-Powered test case generation**
 - Automatically generate test cases, or suggest suitable templates
- **False positive/negative identification**
 - Recognize which tests create a lot of false positive/negatives



Choose use case..with highest business benefit

Identifying a concrete ML opportunity area

Early warnings model ORIGINAL DESCRIPTION

Vision: Avoid surprises in software projects

- ✓ **1. Business objective**
 - Avoid surprises in software projects, adjust plans before any delays or rush
 - Provides predictions of project schedules and alerts
- ✓ **2. Data understanding**
 - Feature backlogs, bug reports, schedule information
 - Data mining from project management tools
- ✓ **3. Data preparation**
 - Collect historical project outcomes
 - Standardize data from diverse sources, incl. data cleaning, transformations, integration etc
- ✓ **4. Modeling**
 - Predict work remaining in hours, will it fit the deadline
 - Compare against most similar projects in workflow timeline and feature description
- ✓ **5. Evaluate**
 - Estimate consensus between similar projects, and with an actual outcome
 - Possibility of generating alers without false positives
- ✓ **6. Deployment**
 - As part of Root platform
 - Integration with Jira or similar tools



Go on with the teamwork...

Identifying a concrete ML opportunity area

Early warnings model GROUPWORK DISCUSSION

Vision: Avoid surprises in software projects

- 1. **Business objective**
 - * Avoid surprises in software projects, adjust plans before any delays or rush
 - * Provides predictions of project schedules and alerts
 - * Stage 1: Highlight potential problem Stage 2: Explain potential problem source
- 2. **Data understanding**
 - * Feature backlogs, tests, release data, bug reports, schedule information
 - * Data mining from project management tools
- 3. **Data preparation**
 - * Collect historical project outcomes
 - * Predict categories: deadline, more help needed, complicated area of code
 - * Standardize data from diverse sources, incl. data cleaning, transformations, integration etc
- 4. **Modeling**
 - * Stage 1: Highlight potential problem Stage 2: Explain potential problem source
 - * Predict range of days based on previous history per developer and aggregate team level
- 5. **Evaluate**
 - * Possibility of generating alerts without false positives
- 6. **Deployment**
 - * As part of Root platform dashboard (with background colour)
 - * Integration with Jira or similar tools



What is Eficode ROOT?

01. ONE STOP SHOP FOR DEVOPS TOOLING SOLUTIONS

Over 40 tools and technologies to choose from. Private cloud, on-premise, cloud native and hybrid DevOps tooling solutions.

ISO27001 certified starting from September 2020.

03. VALUE ADDING TOOLCHAIN COMPONENTS

Centralized access control via Eficode ROOT Team Management. Built-in data driven Eficode ROOT Insights dashboards provide end-to-end visibility to all production phases

02. FULL LIFE-CYCLE SERVICE PORTFOLIO

Our services and solution let you focus on the essential - building your products in a efficient manner without carrying the tool maintenance and support burden.

04. ALWAYS EVOLVING AND UP TO DATE

Eficode ROOT is always up to date with frequent tool updates, and it evolves with your needs. We keep adding new functionality and integrations as they become mature enough for production use

Reference tooling



Eficode early warnings (part of Eficode ROOT)

The image displays two overlapping screenshots of the Eficode ROOT interface, showing the 'EARLY WARNINGS' section. The interface is dark-themed with a blue header and a white sidebar.

Left Screenshot (EW17):

- Header:** EARLY WARNINGS, New, Confirmed, Resolved, Turned off, Sort by Latest.
- View:** 4, 10, 50.
- Warning:** EW17 • 12.05.2019 Confirmed by: Marko.
- DESCRIPTION:** Only the highest priority items advance in the project workflow. This may signal overuse of the highest priority status (leading to loss of control over really critical tickets) or overwhelming number of truly important features (indicating quality issues).
Jira: <https://jira.eficode.fi/browse/EFIROOTUM-382>
- RECOMMENDATION:** Limit the use of the highest priority designation to tickets that really need special attention. If the number of high priority tickets (e.g. severe bugs) is high for a valid reason, please more focus on quality assurance practices.
- COMMENTS:** There are no comments yet on this warning. [Comment](#)
- EW4:** 2d ago Confirmed by: Marko. There is a risk that a critical component (Component ID) is worked on by a single project member for a significant amount of time, without code review practices. [Comment](#)

Right Screenshot (EW17):

- Header:** EARLY WARNINGS, New, Confirmed, Resolved, Turned off, Sort by Latest.
- View:** 4, 10, 50. Showing result 1-4 of 24 < 1 2 3 ... 6 >
- Warning:** EW17 • 12.05.2019 Confirmed by: Marko.
- DESCRIPTION:** Only the highest priority items advance in the project workflow. This may signal overuse of the highest priority status (leading to loss of control over really critical tickets) or overwhelming number of truly important features (indicating quality issues).
Jira: <https://jira.eficode.fi/browse/EFIROOTUM-382>
- RECOMMENDATION:** Limit the use of the highest priority designation to tickets that really need special attention. If the number of high priority tickets (e.g. severe bugs) is high for a valid reason, please more focus on quality assurance practices.
- COMMENTS:**
 - Aspa Heikinen added a comment - 20.2.2019 11:30 AM
Add few more standards to prioritize status
 - Marko Anttila added a comment - 20.2.2019 11:15AM
Made clear standard to prioritize status
Jira: <https://jira.eficode.fi/browse/EFIROOTUM-382>
 - 6 older comments[Comment](#)
- PEOPLE:** Confirmed by: Marko Anttila, Resolved by:, Turned off by:
- RELATED WARNINGS:** EW8
- [Resolve](#)

EARLY WARNINGS

New Confirmed Resolved Turned off

Sort by Latest

View 4 10 50 Showing result 1-4 of 24 < 1 2 3 ... 6 >

EW17 • 12.05.2019 Confirmed by: Marko

Your warning has been resolved

Feedback ✕

We would like to hear your opinion to provide better warnings

Was the information provided valid? ☆☆☆☆

Was the information provided useful? ☆☆☆☆

EW4 • 2d ago

There is a risk that a critical component (Component ID) is worked on by a single project member for a significant amount of ti
code review practices.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382)

EW12 • 2d ago

There is a risk that project members (Sofi Eskelinen) get overloaded by the ongoing work.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382)

EARLY WARNINGS

New Confirmed Resolved Turned off

Sort by Latest

View 4 10 50 Showing result 1-4 of 24 < 1 2 3 ... 6 >

EW17 • 12.05.2019 Turned off by: Marko Anttila

Only the highest priority items advance in the project workflow.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382) **Turn on**

EW17 • 12.05.2019 Turned off by: Marko Anttila

Only the highest priority items advance in the project workflow.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382) **Turn on**

EW17 • 12.05.2019 Turned off by: Marko Anttila

Only the highest priority items advance in the project workflow.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382) **Turn on**

EW17 • 12.05.2019 Turned off by: Marko Anttila

Only the highest priority items advance in the project workflow.

[Jira: https://jira.eficode.fi/browse/EFIROOTUM-382](https://jira.eficode.fi/browse/EFIROOTUM-382) **Turn on**

Thank you!

eficode



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