




# Developer Productivity Teams: Unleashing Potential for Better, Faster, Stronger Results

Ana Petkovska

Engineering Manager, Nexthink



How to create  
a developer productivity team  
with high productivity?

# Developer Productivity (DP) teams

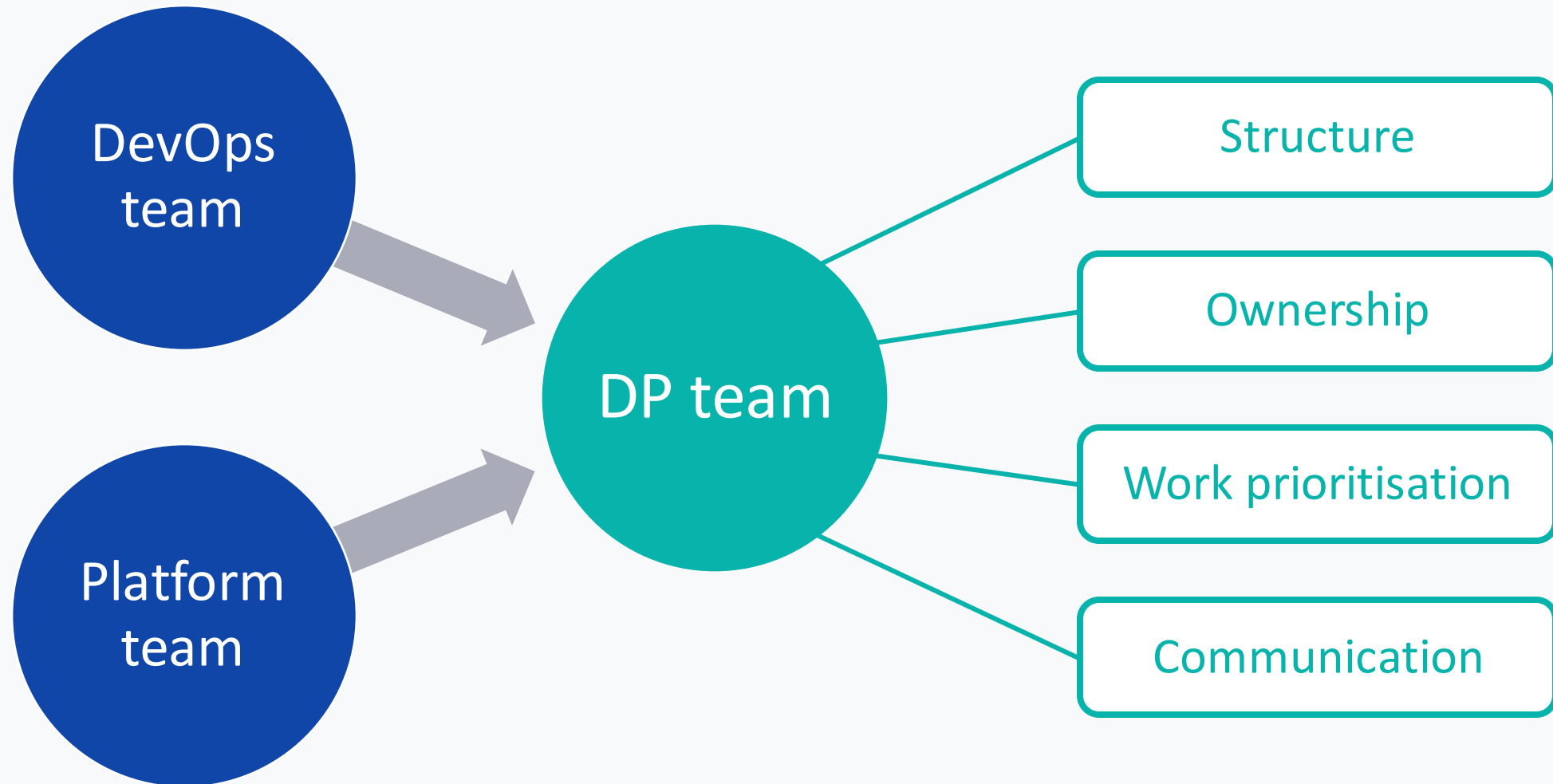
## Different names

- Developer Productivity ([Gradle](#), [Apple](#))
- Developer Experience ([Snyk](#))
- Engineering Productivity ([Google](#), [GitLab](#))
- Productivity Engineering ([Netflix](#))
- DevInfra ([Meta](#), [Airbnb](#))

## Same mission

- Enhanced developer efficiency
- Improved developer experience
- Faster feedback cycles
- Increased value for customers
- Based on data-driven initiatives

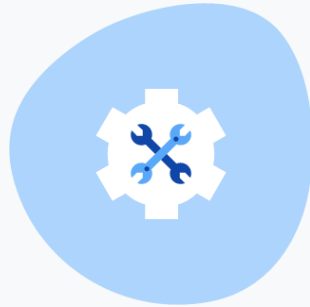
# Developer Productivity teams



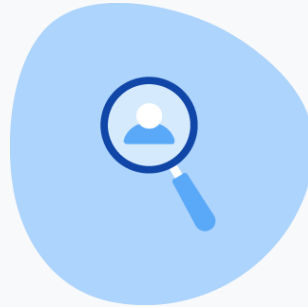
## Agenda :: Key ingredients



Decrease  
cognitive load



Develop  
self-service  
platforms



Focus on  
quality



Harness the  
power of  
metrics



Strengthen  
collaboration  
with the dev  
teams

\*Based on our experience and industry practices



# nextthink

## Digital Employee Experience Platform

- 44 feature teams
- 250+ engineers
- 12 engineers in the DevEx group
- On-premise & Cloud product

# Key achievements

2022 Apr



Engineering Productivity team is formed



## Improved deployment of microservices

- 7x faster deployments in production
- 10x increase in continuous deployments within internal integration environments
- 80% adoption of the new CD pipeline



## Improved CI/CD system

- Improved scalability and reliability
- 40% reduction in open support tickets
- 95% adoption of Jenkins-as-Code

2023 Jan



## Improved repository management system

- Embedded governance and security
- Autonomous management of repository settings
- Moved to a cloud-based solution

Sep

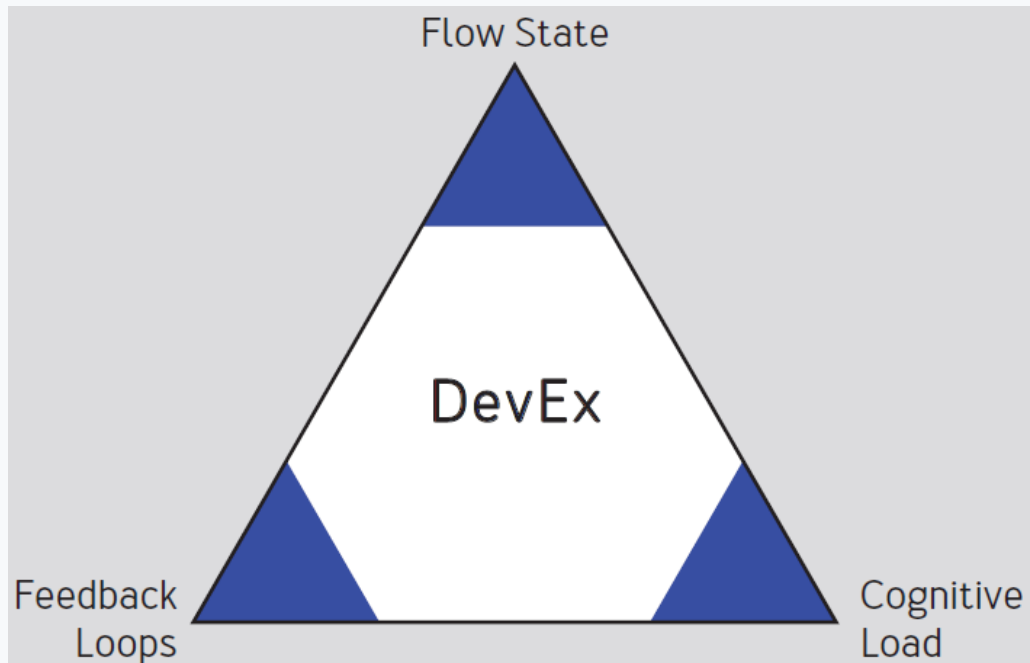


Decrease cognitive load





# Decrease cognitive load



Three core dimensions of Developer Experience <sup>[1]</sup>

- One of the three core dimensions for increasing DevEx <sup>[1]</sup>
- Cognitive load can be improved by limiting the number of types of domains per team <sup>[2]</sup>
- We can decrease the cognitive load by decreasing the **ownership of a team**

[1] A. Noda, M. Storey, N. Forsgren, and M. Greiler. 2023. DevEx: What Actually Drives Productivity: The developer-centric approach to measuring and improving productivity.

[2] M. Pais and M. Skelton. 2019. Team Topologies: Organizing Business and Technology Teams for Fast Flow

# Our DevOps team

January 2019

Repository management system

Artifacts management system

CI/CD tools

Release management & engineering

Base VM for the on-premise product

[Product Delivery](#)

DevOps-related topics



# Our DevOps team

January 2022

Access rights management

Kubernetes lifecycle

Istio lifecycle

Repository management system

Kafka lifecycle

Artifacts management system

Development of Cloud infrastructure

CI/CD tools

Deployment pipelines for infrastructure

Release management & engineering

Development environments

SDLC processes

Deployment of microservices

Base VM for the on-premise product

[Product Delivery](#)

[DevOps-related topics](#)



# Decrease ownership per team

April 2022

- Access rights management
- Repository management system
- Artifacts management system
- CI/CD tools
- Release management & engineering
- SDLC processes
- Deployment of microservices

## Engineering Productivity

development-related topics

- Kubernetes lifecycle
- Istio lifecycle
- Kafka lifecycle
- Development of Cloud infrastructure
- Deployment pipelines for infrastructure
- Development environments
- Base VM for the on-premise product

## Platform Systems

product-related topics



# Decrease ownership per team

January 2023

Access rights management

Repository management system

Artifacts management system

CI/CD tools

Release management & engineering

SDLC processes

Deployment of microservices

## Engineering Productivity

development-related topics

Kafka lifecycle

Development of Cloud infrastructure

Deployment pipelines for infrastructure

Development environments

## Platform Systems

product-related topics



# Decrease ownership per team

Vision for the future

Access rights management

Repository management system

Artifacts management system

CI/CD tools

Release management & engineering

SDLC processes

Deployment of microservices

Kafka lifecycle

Development of Cloud infrastructure

Deployment pipelines for infrastructure

Development environments

CI/CD

Tooling

DevEnvs

Infrastructure aaS

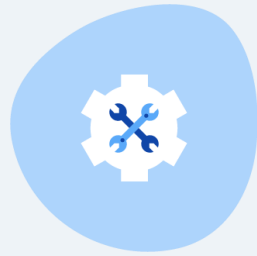
Kafka



## Decrease cognitive load :: Action items

- Decrease the **ownership of a team**
- Maintain a roadmap for **work prioritisation**
- Set efficient support: round robin support person or Tier 1 support team <sup>[3]</sup>
- Introduce a PM role [**team structure**]



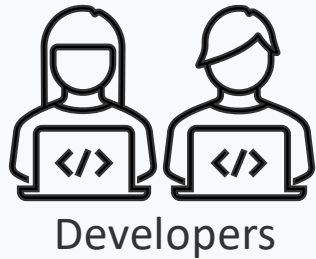


Develop self-service platforms





# DevOps teams can easily become a bottleneck



I need access to X

We need a new Jenkins controller/agent

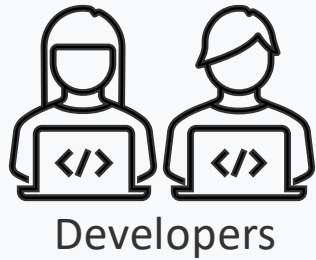
We need a new repository

We need to change the settings of a repository

We need to deploy X for our new feature



# Develop self-service platforms :: Examples



RBAC-as-Code

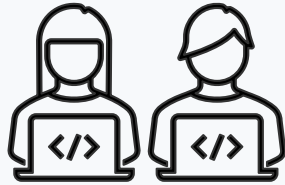
Jenkins-as-Code / Ephemeral agents

Repository creation and management  
-as-Code

CD pipeline / Infrastructure-as-a-Service



# Develop self-service platforms :: Results



## For developers

- Autonomy in obtaining the required services and tools
- Faster feedback loop
- Reduced cognitive load <sup>[4]</sup>

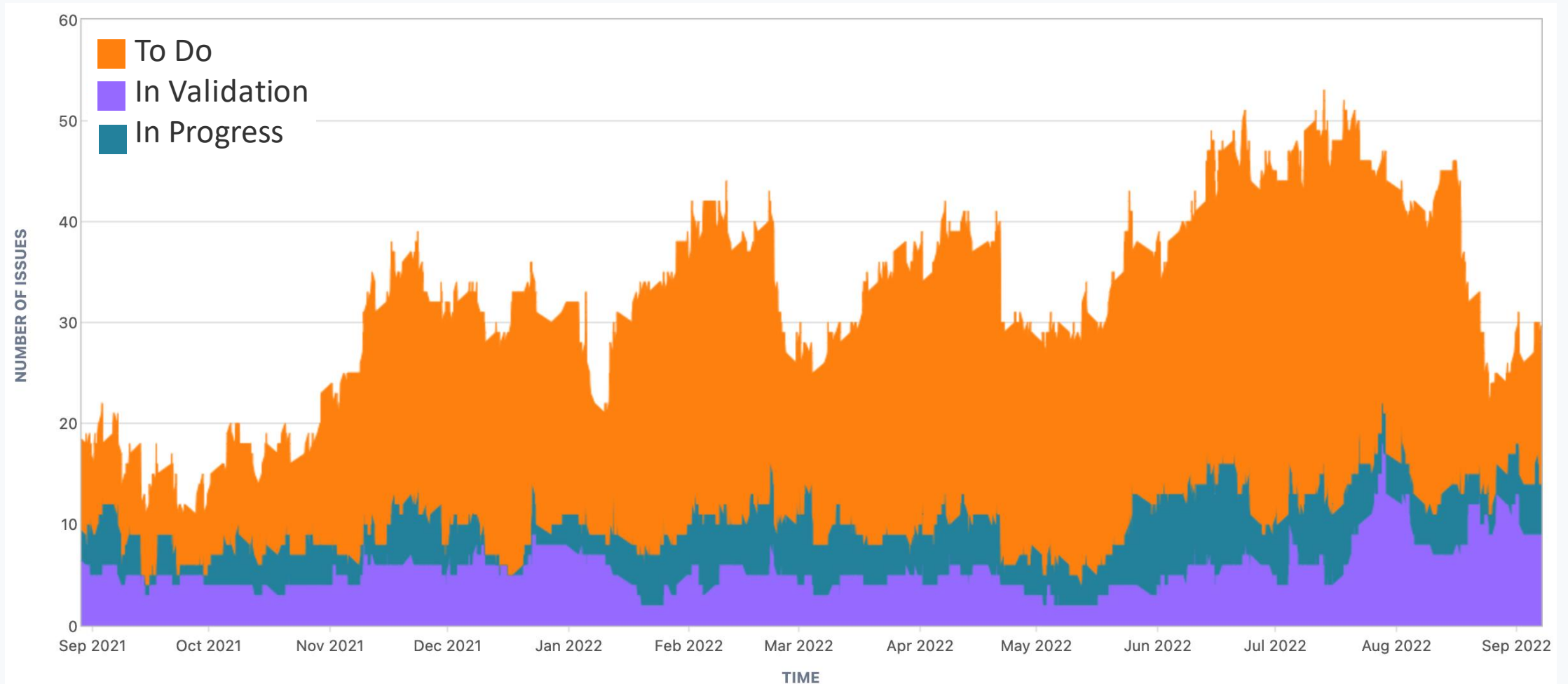


## For the DP team

- Better scalability and throughput
- Improved flow state
- Less support tickets

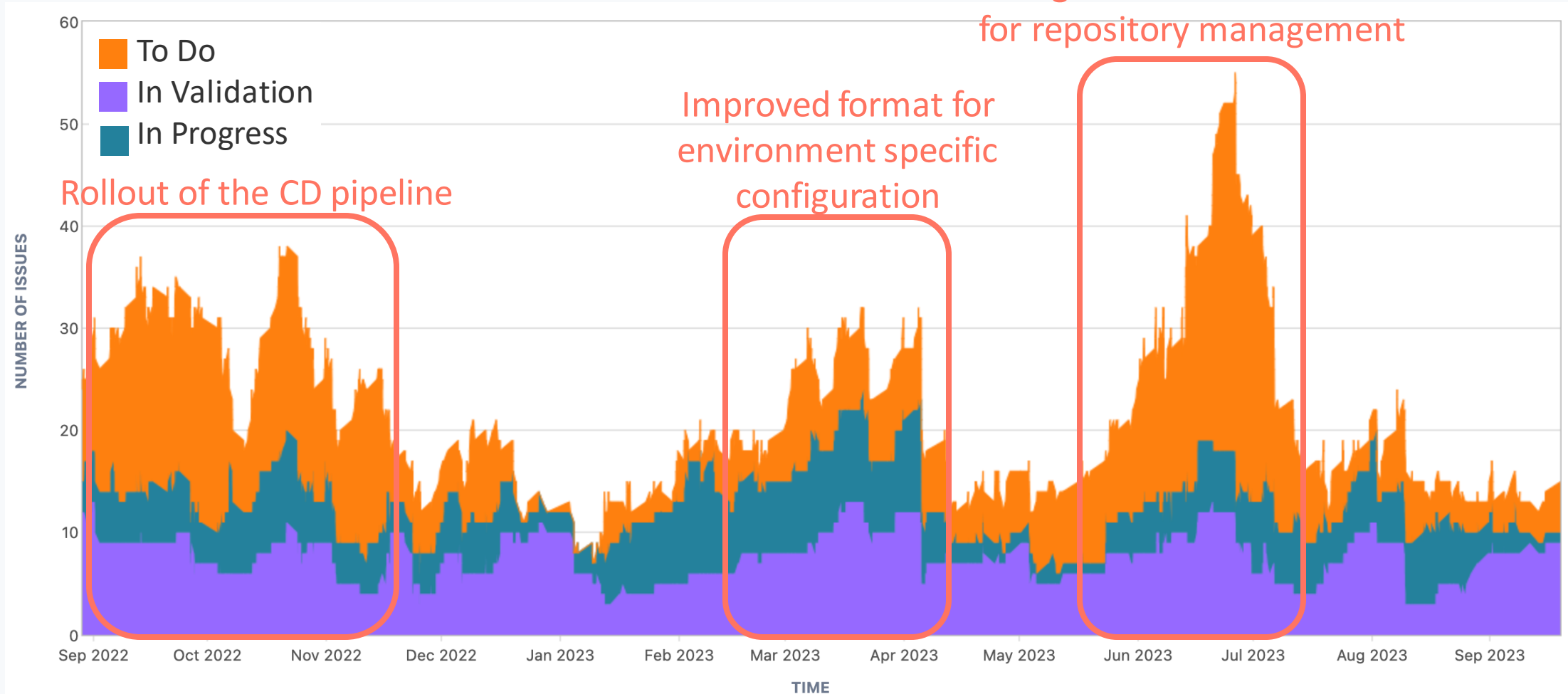
# Number of open support tickets

Sep 2021 – Sep 2022



# Number of open support tickets

Sep 2022 – Sep 2023



## Develop self-service platforms :: Action items

- Treat the self-service platforms as a product [[work prioritisation](#)]
- Embedded governance & security policies
- Facilitate adoption [[communication](#)]
- Design for habitability: Provide intuitive and safe interface for the users <sup>[5]</sup>

[5] Sam Newman. Jul 2022. Designing for Habitability, <https://www.youtube.com/watch?v=IDSMDJXmOps>



Focus on quality



# Bring QA knowledge in the team

## Dedicated QA engineer

- Dedicated focus on quality: protected from pressure to deliver new increments
- Hard to find someone with knowledge of IaC technologies

## DevOps/Platform engineer with a QA background

- Enthusiastic for test automation and improving test practices
- Great knowledge of IaC technologies





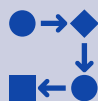
# Focus on quality :: Examples



Ensure compatibility between CI runners and the standard build tools



Validation of requirements on each PRs for deployment of microservices



Schema validation of YAML configuration for self-service platforms

## CHIHUAHUA SYNDROME

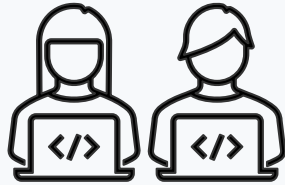
MESSY, UNVALIDATED HAND-ENTERED DATA

DOG DATABASE	
Breeds ↑	
BOXER	118,726
BULLDOG	109,215
CHE HUA HUA	2
CHE-HUA-HUA	16
CHE-WAWA	3
CHEE-HUA-HUA	14
CHEEHUAHUA	25
CHEHUAHUA	1032
CHEHAHA	458
CHEHAWA	1
CHIHHAHA	67
CHIHUAHUA	65,421
CHIHUAWA	17
CHIWAWA	13,098
CHIEHUAUA	362



Chihuahua syndrome, <https://sketchplanations.com/>

# Focus on quality :: Results



## For developers

- Better productivity and experience using the provided services and tools
- Improved flow state



## For the DP team

- Less support tickets
- Move to proactive issue resolution
- More time for strategic work



## Focus on quality :: Action items

- Bring QA knowledge in the team [[team structure](#)]
- Quality is a shared mission in the DP team [[work prioritisation](#)]
- Introduce alerts to detect important failures and react fast to fix issues





Harness the power of metrics



# Voice of the developer



Main pain-points highlighted by the developers



Launch surveys to get feedback



Struggles visible on public chats

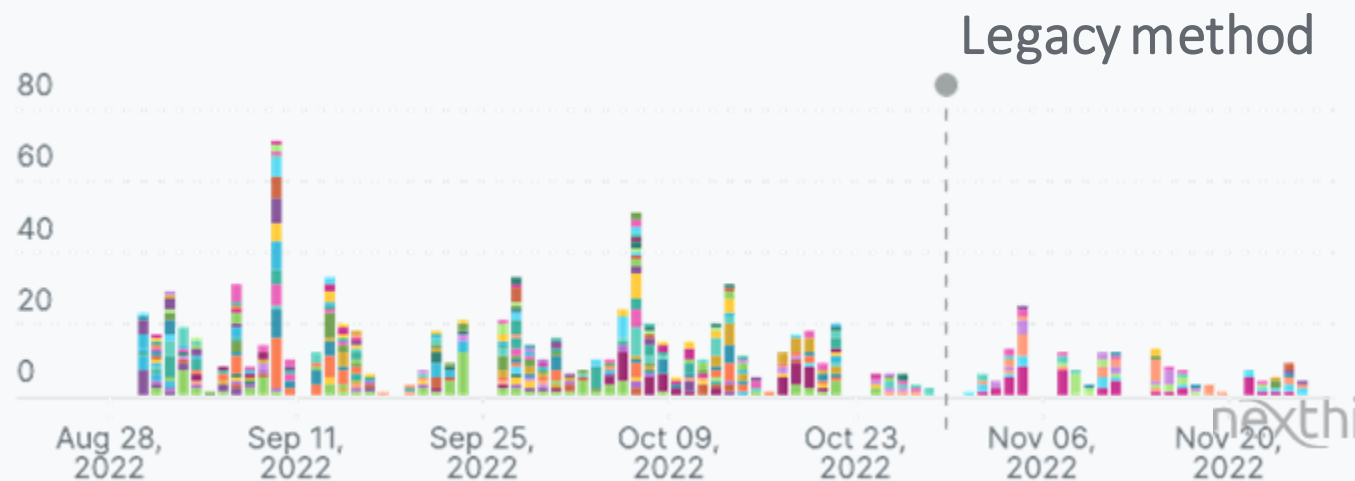
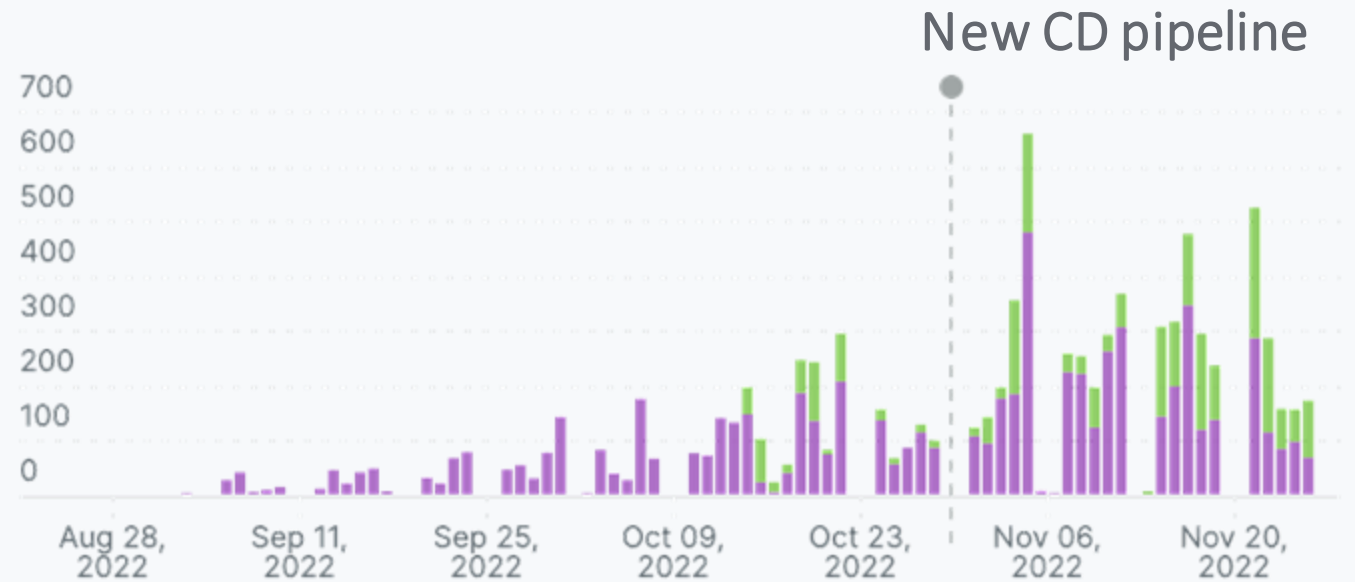


Statistics from support tickets



# Use metrics tailored for the initiative

- Get metrics before rolling out changes to the teams
  - 10x more deployments in a global integration environment
- Measure adoption
  - More than 50% decrease of the usage of the legacy method



# Metrics to follow adoption

## Pending

Since 8 hours ago

Microservice Pending ↑

mnt-demo-kit-release

mnt-integration-tests

nl2nql-release

nlp-gateway-release

sentry-gateway-release

svc-appexsearchprovide

## Completed

Since 8 hours ago

Microservice Completec

act-device-watchdog-re

act-downstream-acks-p

act-executions-api-requ

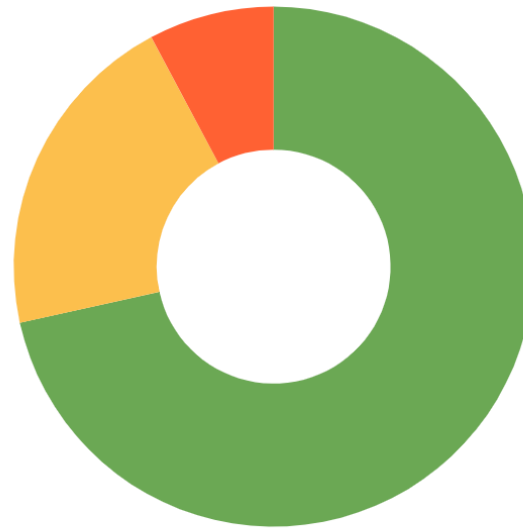
act-executions-janitor-h

act-executions-janitor-re

act-nql-scheduler-result

## Onboarding

Since 8 hours ago



## Microservices (295)

Completed	211	71.53%
Pending	61	20.68%
Not Started	23	7.8%



## Harness the power of metrics :: Action items

- Metrics as part of the team mission [[work prioritisation](#)]
- Voice of the developer
- Use metrics tailored for the initiative
- Use metrics to follow adoption



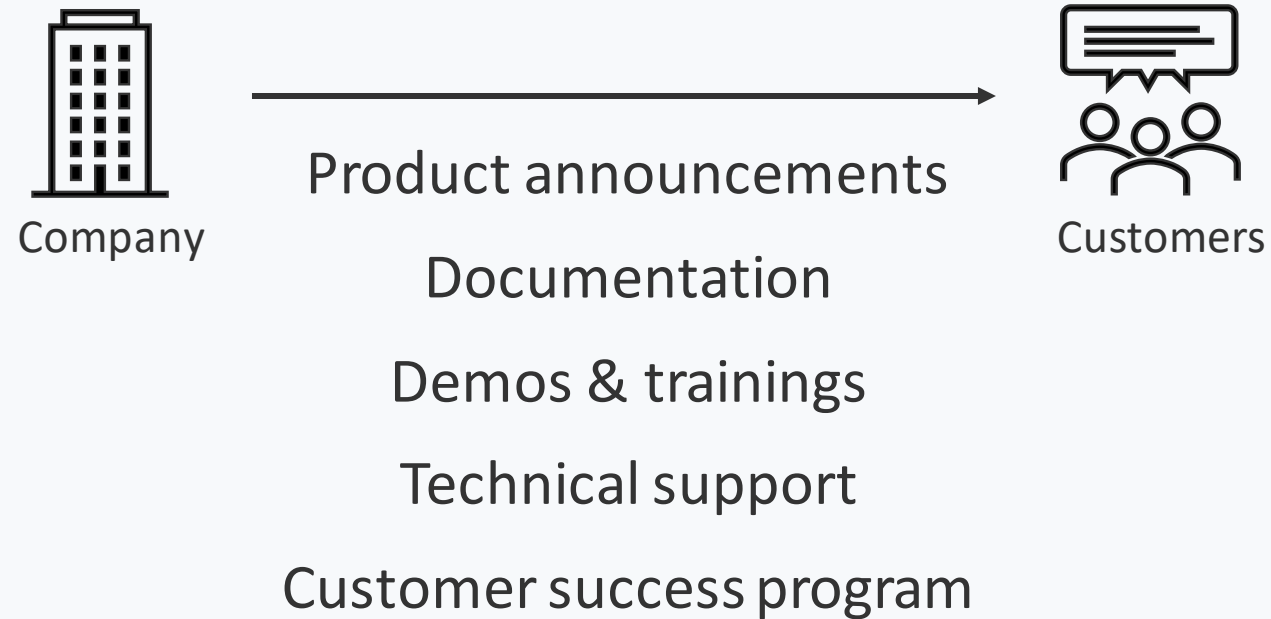




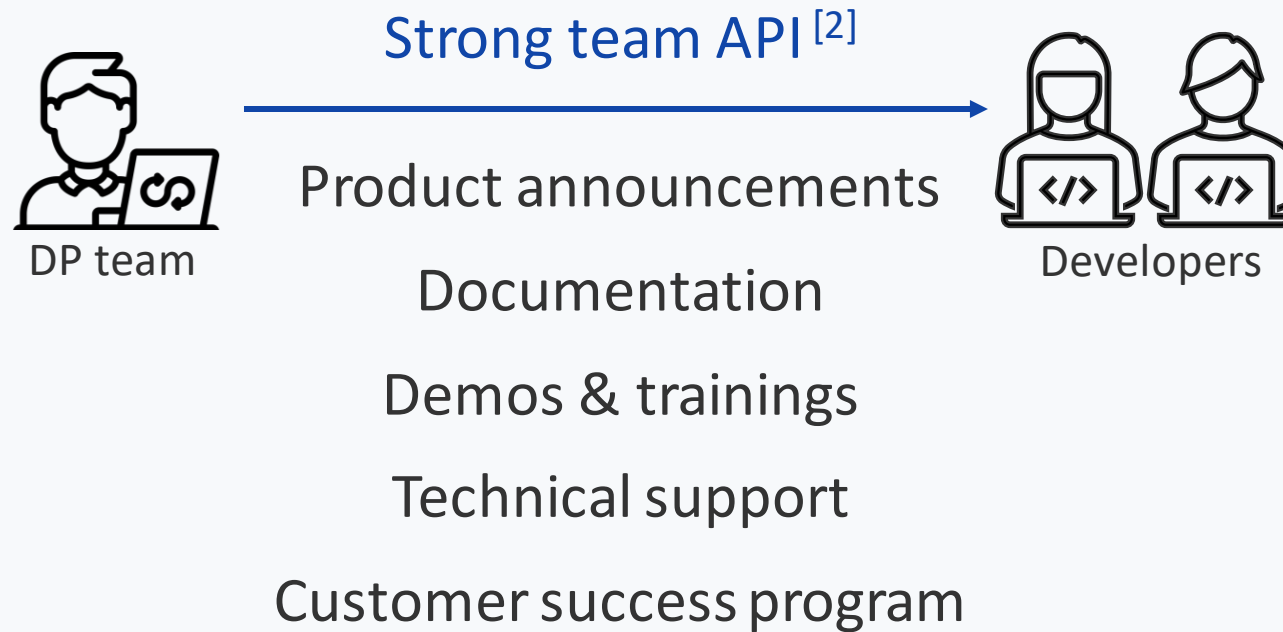
Strengthen collaboration with the development teams



# Proven customer-centric practices



# Strong team API



# Strong collaboration with the developers :: Examples



Weekly meeting for important announcements, news and office hours



Documentation with internal setup of tools and governance



Dedicated communication channels for adoption of big changes



Workshops & trainings for tools and services



Support board for existing tools and services



Launch surveys to get feedback



## Strong collaboration with the developers :: Action items

- Developer-centric solutions [[work prioritisation](#)]
- Set strong team API
- Establish [communication](#) channels for different purposes



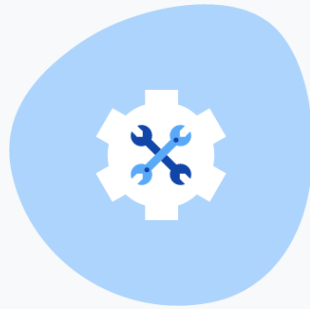


# Take-home message

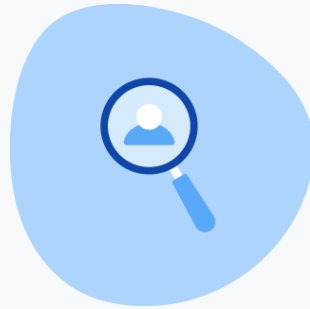
Unleash the potential of your teams  
and get better, faster and stronger results



Decrease  
cognitive load



Develop self-  
service  
platforms



Focus on  
quality



Harness the  
power of  
metrics



Strengthen  
collaboration  
with the dev  
teams



# Thank you!

[ana.petkovska@nexthink.com](mailto:ana.petkovska@nexthink.com)

LinkedIn: @apetkovska

<https://www.nexthink.com/company/careers>