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Living happily without Cron

A small handbook of Jenkins

About me

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Head of Engineering @ Translated

- Work: translated.com
- Github: github.com/bsramin
- Twitter: twitter.com/bsramin
- LinkedIn: linkedin.com/in/banihashemi/



We open up language to everyone

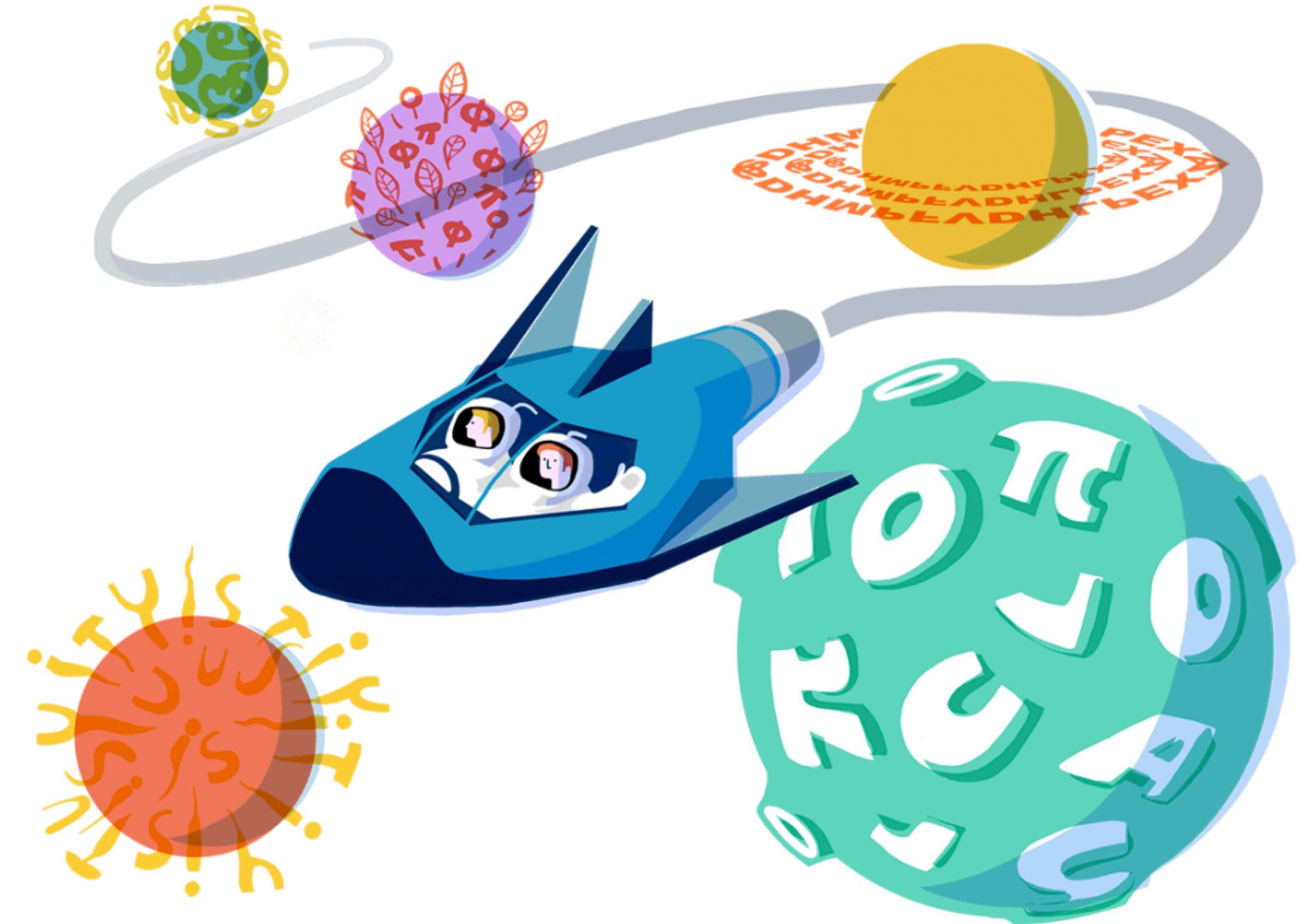
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Crafted by expert humans, powered by
technology, efficiently delivered.

[Instant quote](#)[About us](#)

We open up tools for globalization engineers

Translation APIs for continuous localization, advanced repetition leveraging, content extraction from 71 file formats and 21 content sources, neural adaptive machine translation, and much more.





TranslationOS

A full-stack enterprise localization platform that is transparent, disintermediated, and hyper-scalable. We open up a world where smart clients and engaged translators are directly connected.

[Learn more](#)



What is extraordinary about translated

Capacity

More qualified linguists than anyone else: Translated represents **over 50% of all translators in the world**. Translated has the resources and the processes to manage a highly variable volume of small chunks of content in any language.

Adaptable

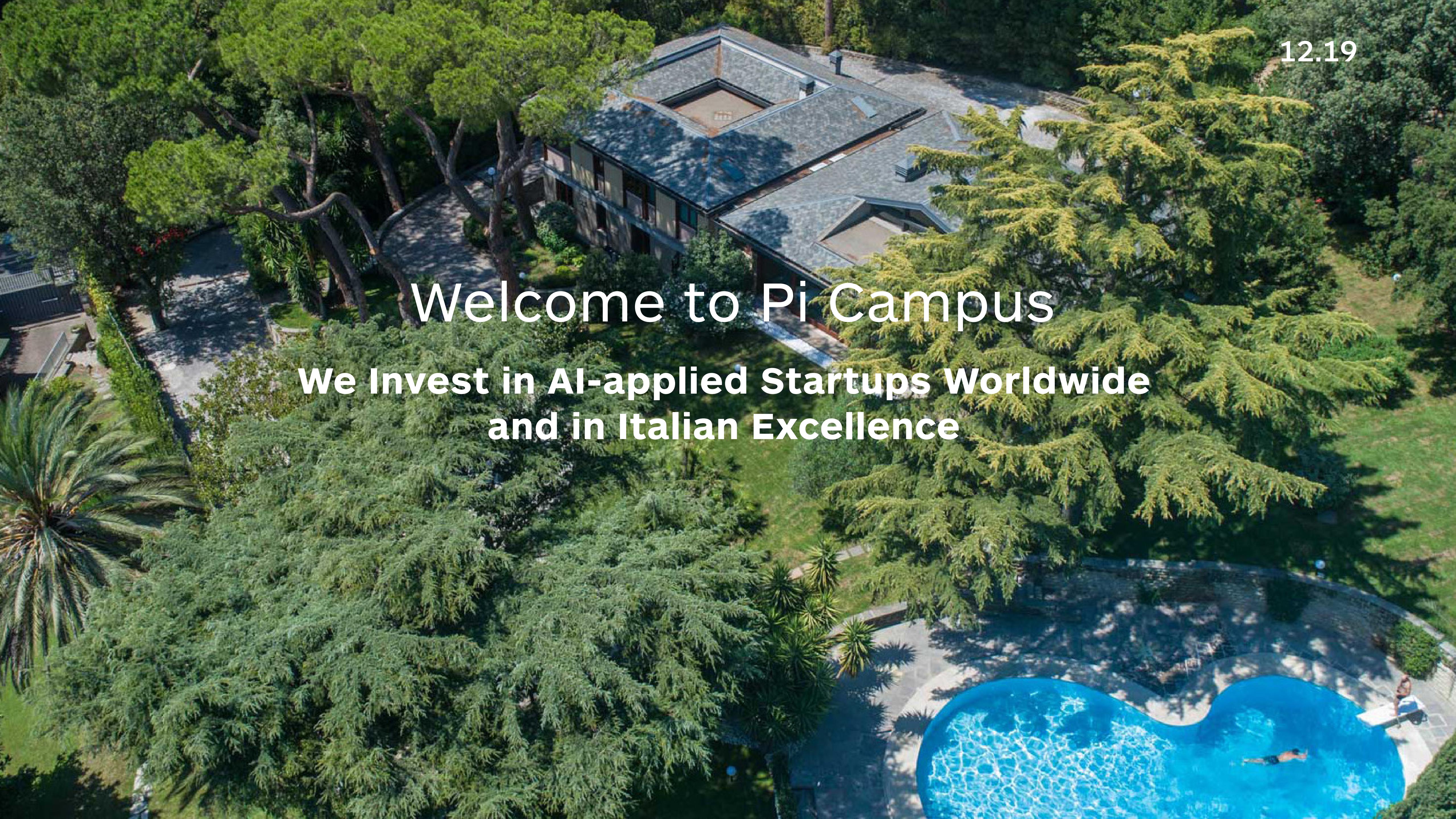
Flexible to adapt to your unique needs. **Wide range of products and solutions already available**. Simple by design, open-minded, in love with great challenges.

Technology

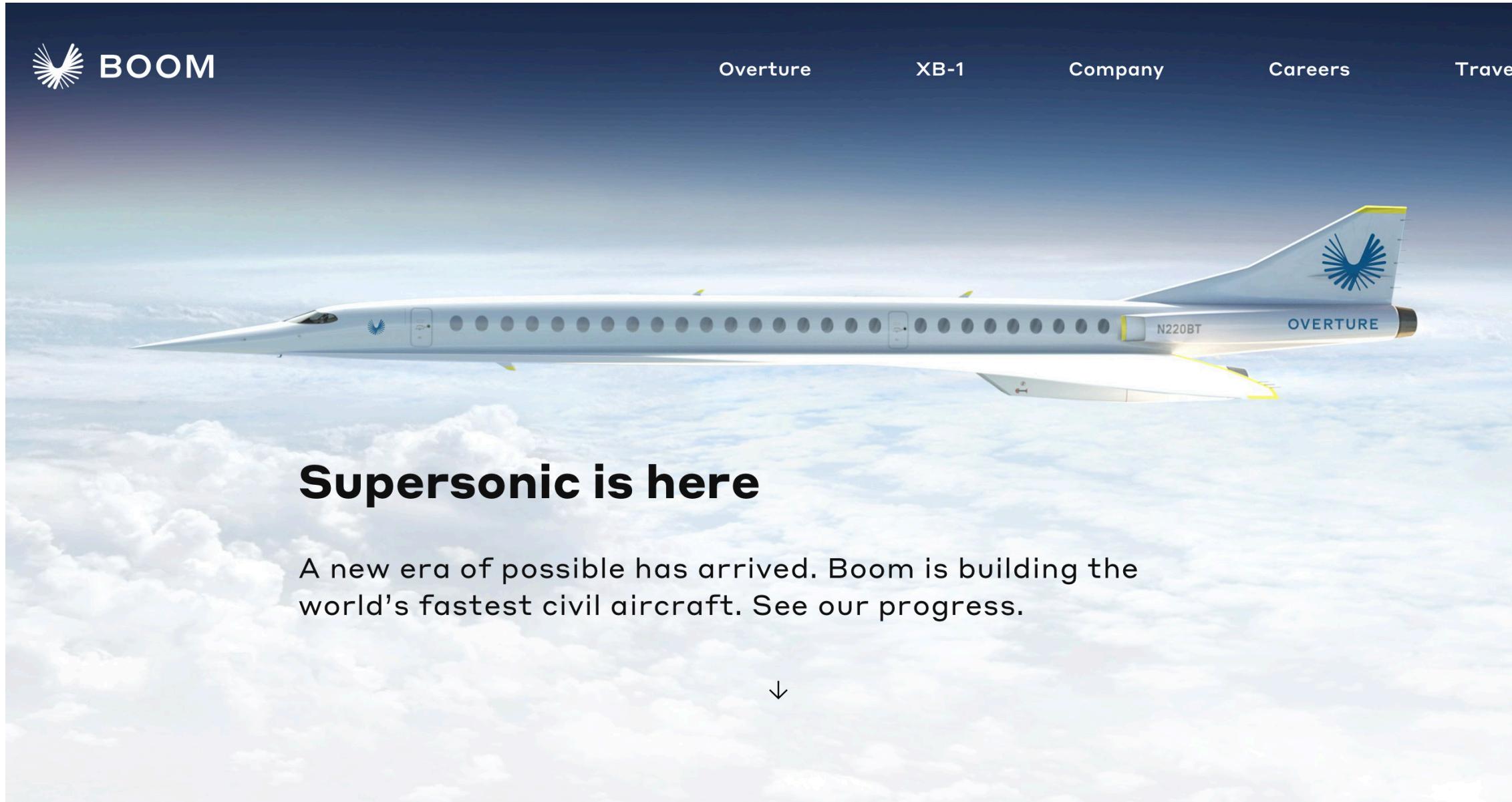
Develop and control the **full stack of technology solutions** from linguists recruiting to CAT tools & machine translation. Design solutions that just work.

Humanity

We feel the responsibility of designing **a great future for everyone**. We support talents, but we don't let anyone stay behind. Rather than replacing professional translators with machines, we found a way for the two to interact: **a virtuous and long-term symbiosis** where the human is supported by the machine and the machine is learning from the human.



Welcome to Pi Campus
**We Invest in AI-applied Startups Worldwide
and in Italian Excellence**



BOOM

Overture XB-1 Company Careers Travel

Supersonic is here

A new era of possible has arrived. Boom is building the world's fastest civil aircraft. See our progress.

↓



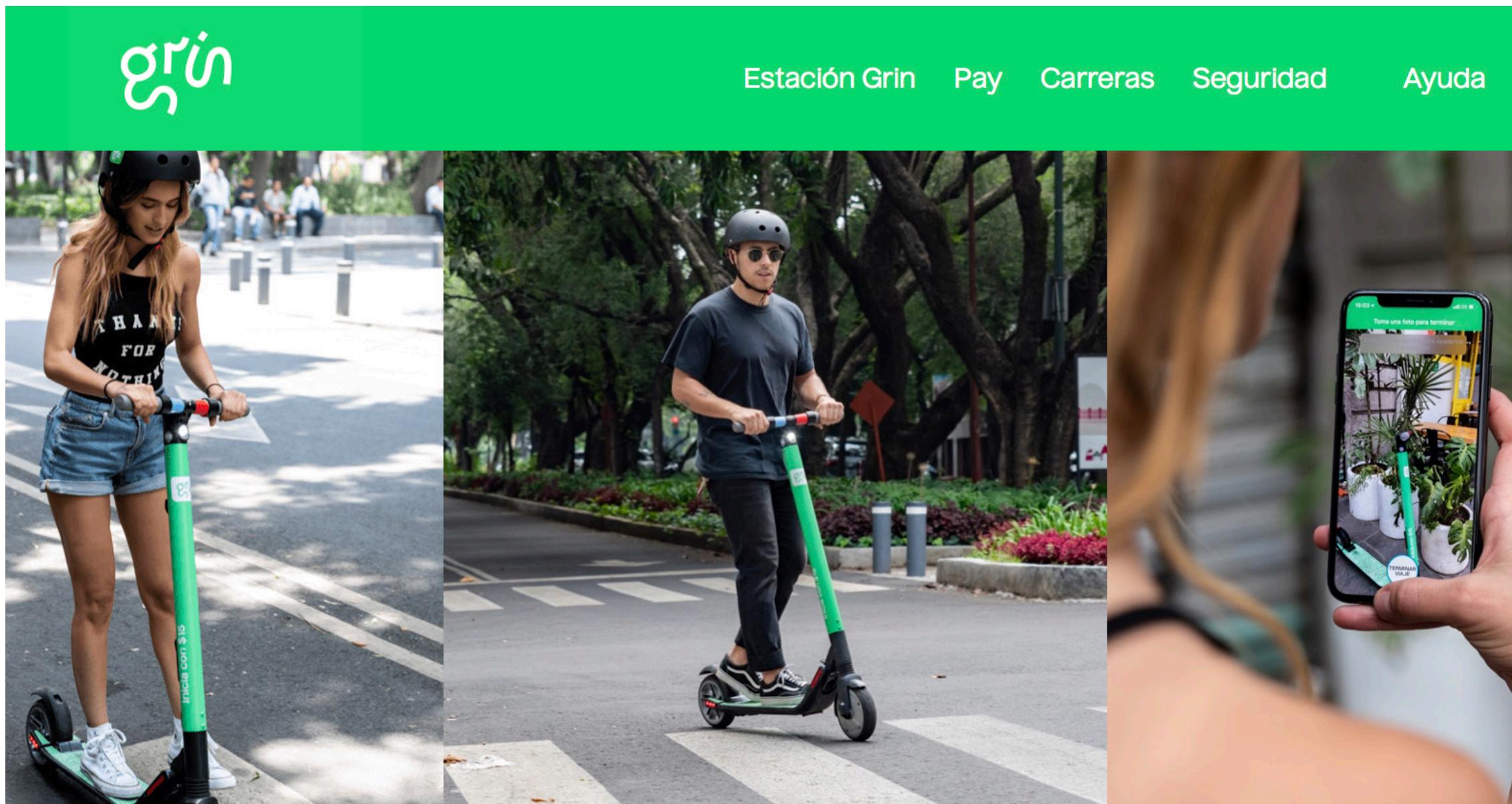
Allelica
PERSONAL GENOMICS HEALTH

HOME CHI SIAMO I TEST COME FUNZIONA LA SCIENZA FAQ CONTATTACI ACQUISTA 0

**CONOSCITI MEGLIO
IL DNA È VITA**

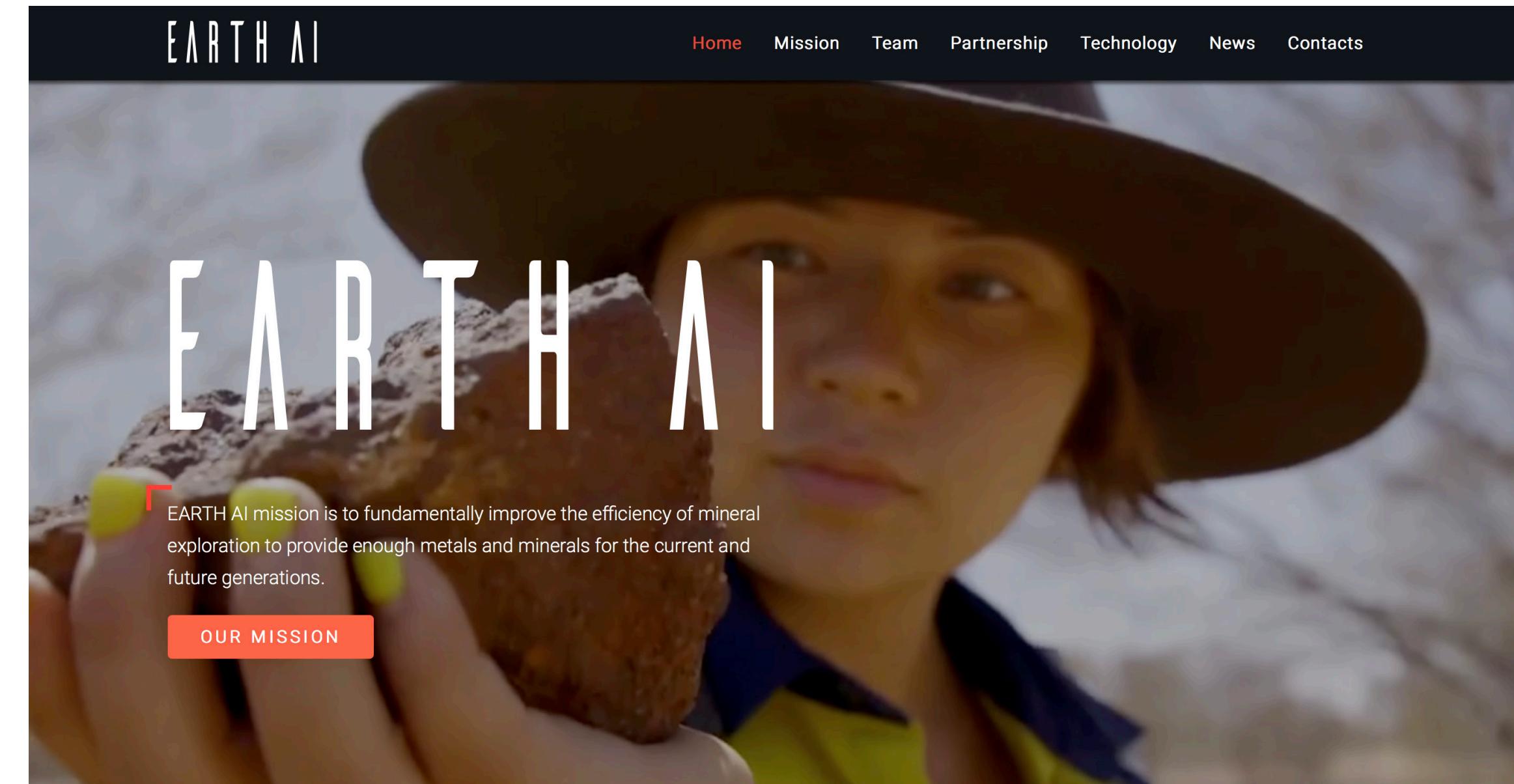
È il momento di prenderti cura di te stesso, per te e per chi ami.

ALLELICA TI AIUTA A PREVENIRE LE MALATTIE E A FARTI SENTIRE AL MEGLIO, RICEVI SUBITO LA TUA DIETA PERSONALIZZATA E IL SUPPORTO DI UN NOSTRO ESPERTO



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EARTH AI

Home Mission Team Partnership Technology News Contacts

EARTH AI

EARTH AI mission is to fundamentally improve the efficiency of mineral exploration to provide enough metals and minerals for the current and future generations.

OUR MISSION

A photograph showing several people from behind, working on laptops in what appears to be a developer or hacker workshop. The laptops' screens display lines of code. The environment is cluttered with various items like coffee cups, bananas, and tools. The lighting is warm and focused on the workstations.

Why are we here?

State of facts

Need to schedule **more and more activities** in the background.

BUILDER

CHECKER

CRONJOB

...

We can use: **travis CI**, several **health-checker**, **Crontab**, **Gitlab**, ...

A close-up, low-angle shot of a person's face, focusing on their eyes and nose. They are wearing a virtual reality headset with large, circular lenses. The background is dark, and a computer monitor is visible, displaying a terminal window with colorful, blurred text. The text includes "12.19", "15", "PASSWORD", and some code snippets like "call(null);".

CRON



CRON

Architecture

- **Requires** a pre-configured dedicated server



CRON

Lack of visibility

- To locate a job run from crontab, you need to **locate the related server and the user**
- They are typically **not accompanied** by valid documentation and there is no best practice for documenting them
- There are tools to define them “as code” but they are typically very difficult to configure and manage

CRON

Difficult or no access to logs

- The output from a cron job can be saved into a log file locally on the server where it runs
- **Not all the stakeholders have access** to servers and their logs
- You can configure it to send an email with the output generated by a cronjob. To avoid receiving thousands of emails, however, you should only generate an output in case of an error.
- *What if the script has been successful but we need to see the output of the script for verification?*



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CRON

CRONTAB NOT IN GIT!

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And so?



JENKINS!

Jenkins helps to automate the non-human part of the software development process:

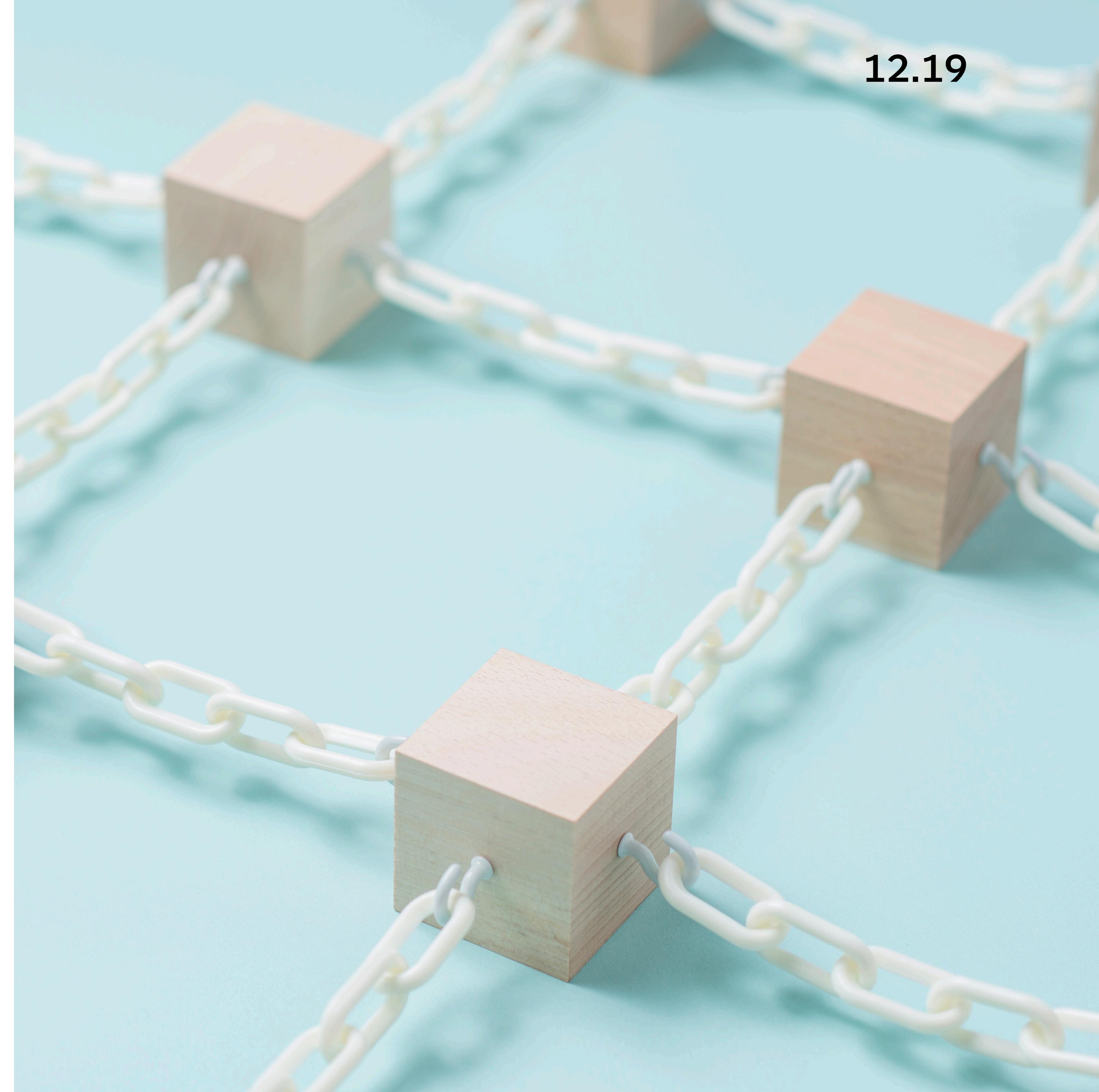
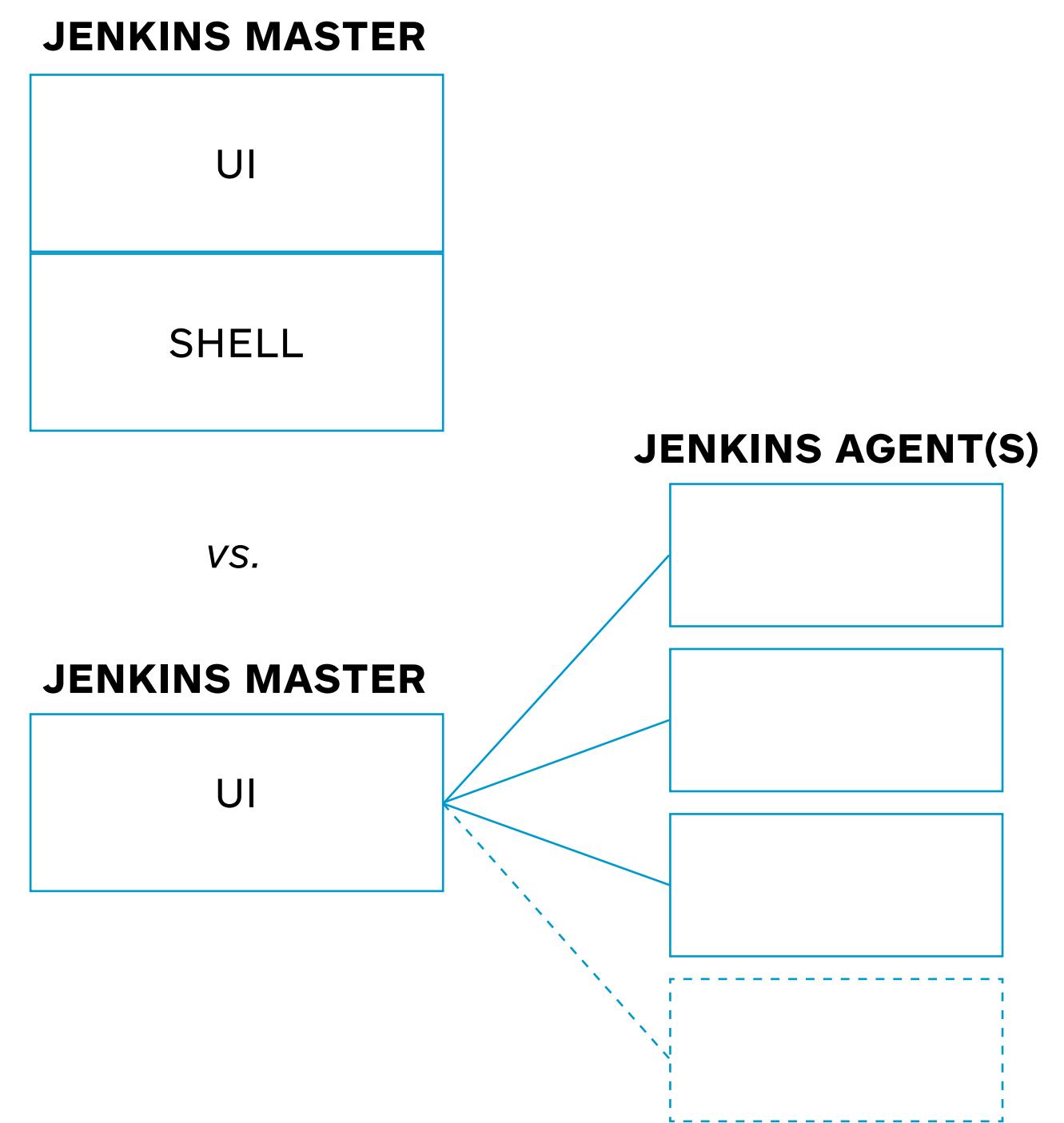
- Open source
- MIT License
- Written in Java

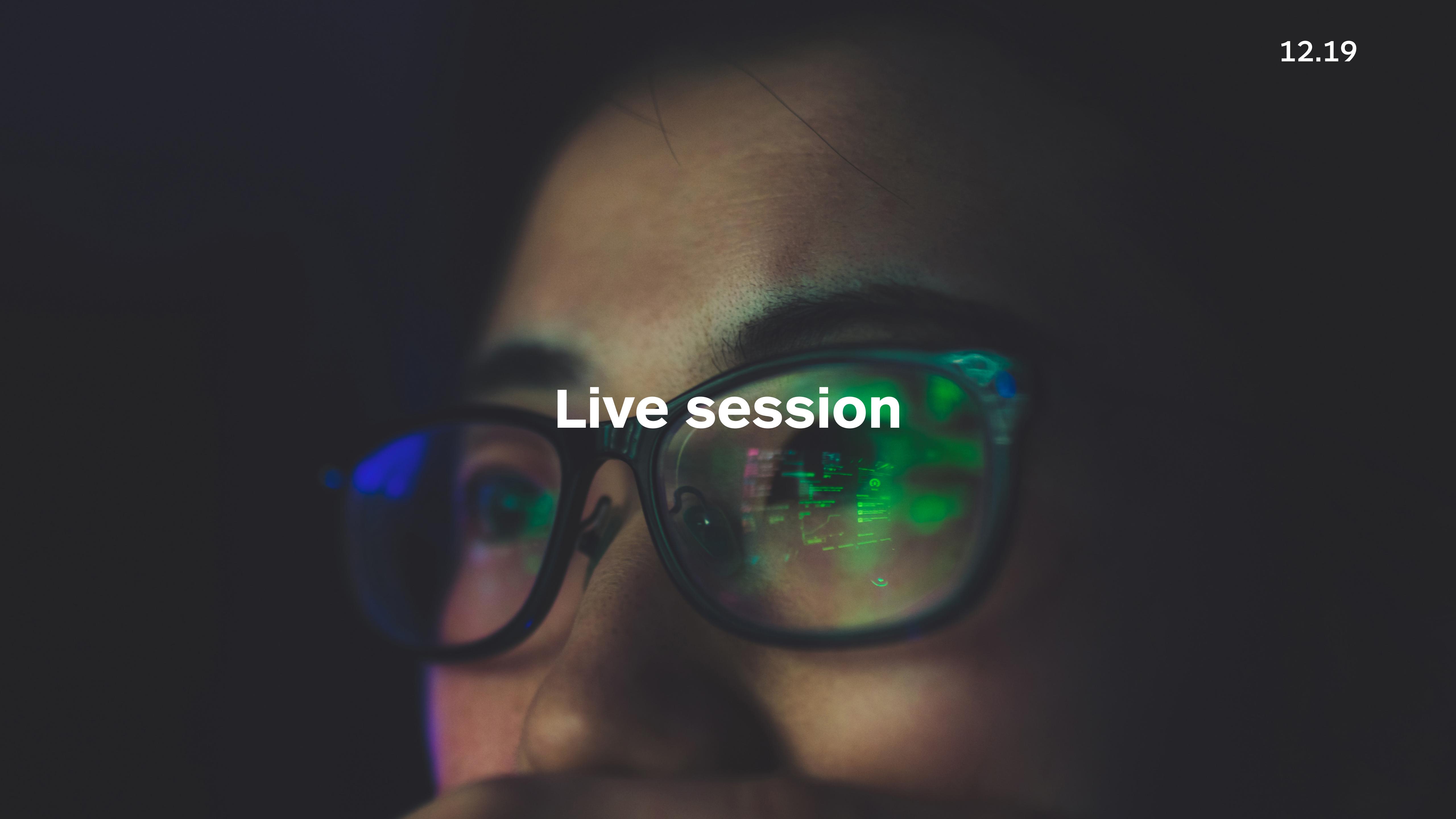
JENKINS

Architecture

Agent with:

- Public Cloud: EC2 plugin, ...
- On-Premise: Proxmox plugin, a script(s) instance in ssh, ...





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Live session

JENKINS

Visibility of jobs

- **Categorisation** (views)
- **Organization** (directory)
- **Description** in each job
- **Self explanatory**





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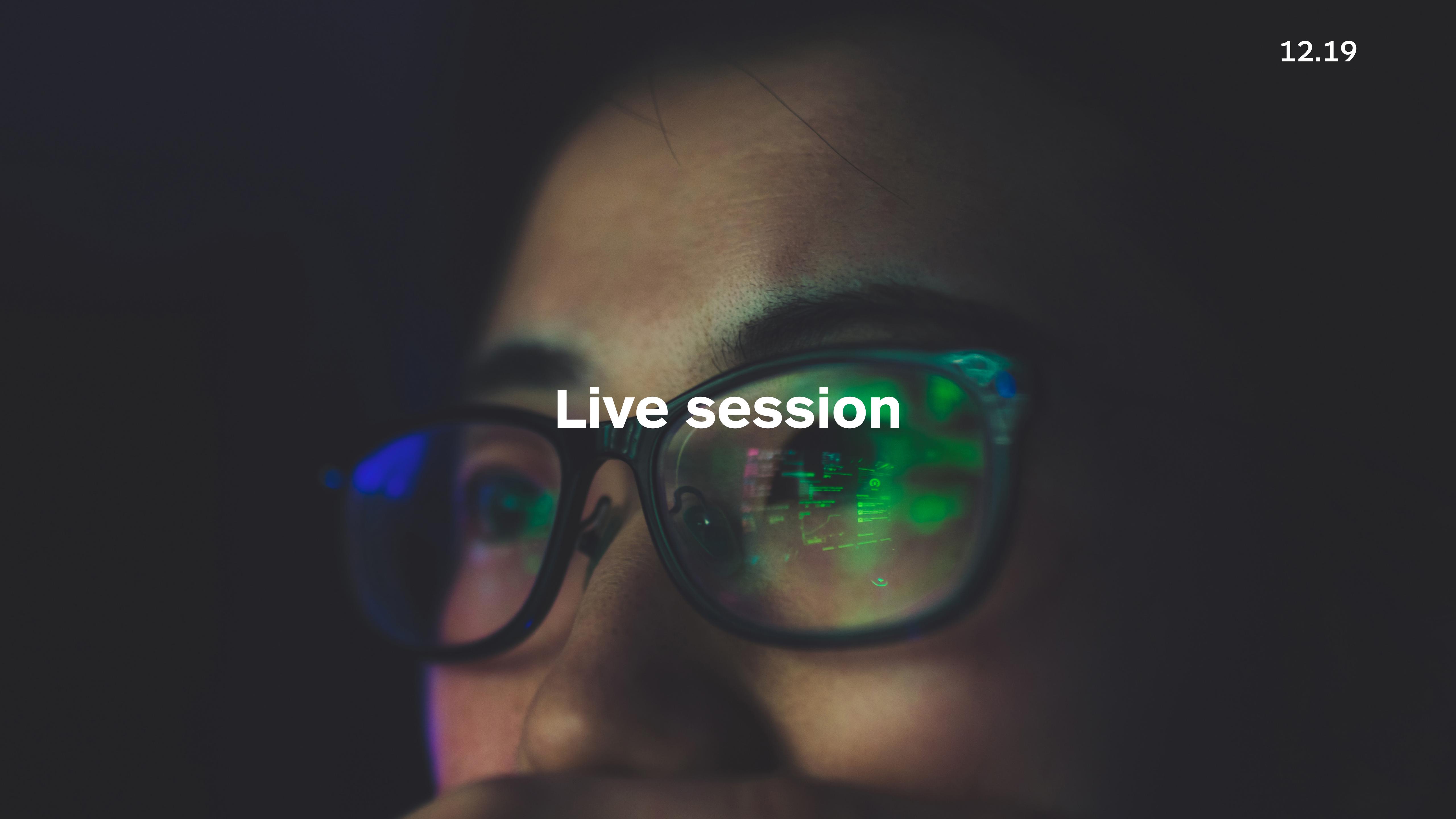
Live session

JENKINS

Accessibility of logs

- The logs are readily accessible and such accesses **can be granted based on the user role**. There is no need to grant access for the user to the server to look at logs
- There is no need to manage and maintain another software as a collector for this type of log





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JENKINS

“Cron as a code”, versionable

- Pipeline/DSL
 - The Job DSL plugin attempts to solve this problem by allowing jobs to be defined in a programmatic form in a human readable file

...also simply “backupable”!

The whole **Jenkins** structure is file based, it has no other dependencies.





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Live session



JENKINS

Execution

- A job that is scheduled to be run periodically could be executed manually anytime as needed
- UI Form for job with parameters
- Jobs **are not only with a time schedule:**
 - Can be executed programmatically using **API** or **Jenkins CLI**
 - They can be cascaded from other jobs or run other jobs
 - They can be **triggered by the github repository** (push on a branch, ...)
- You can develop integrations with bots in **Slack**, mattermost, ...



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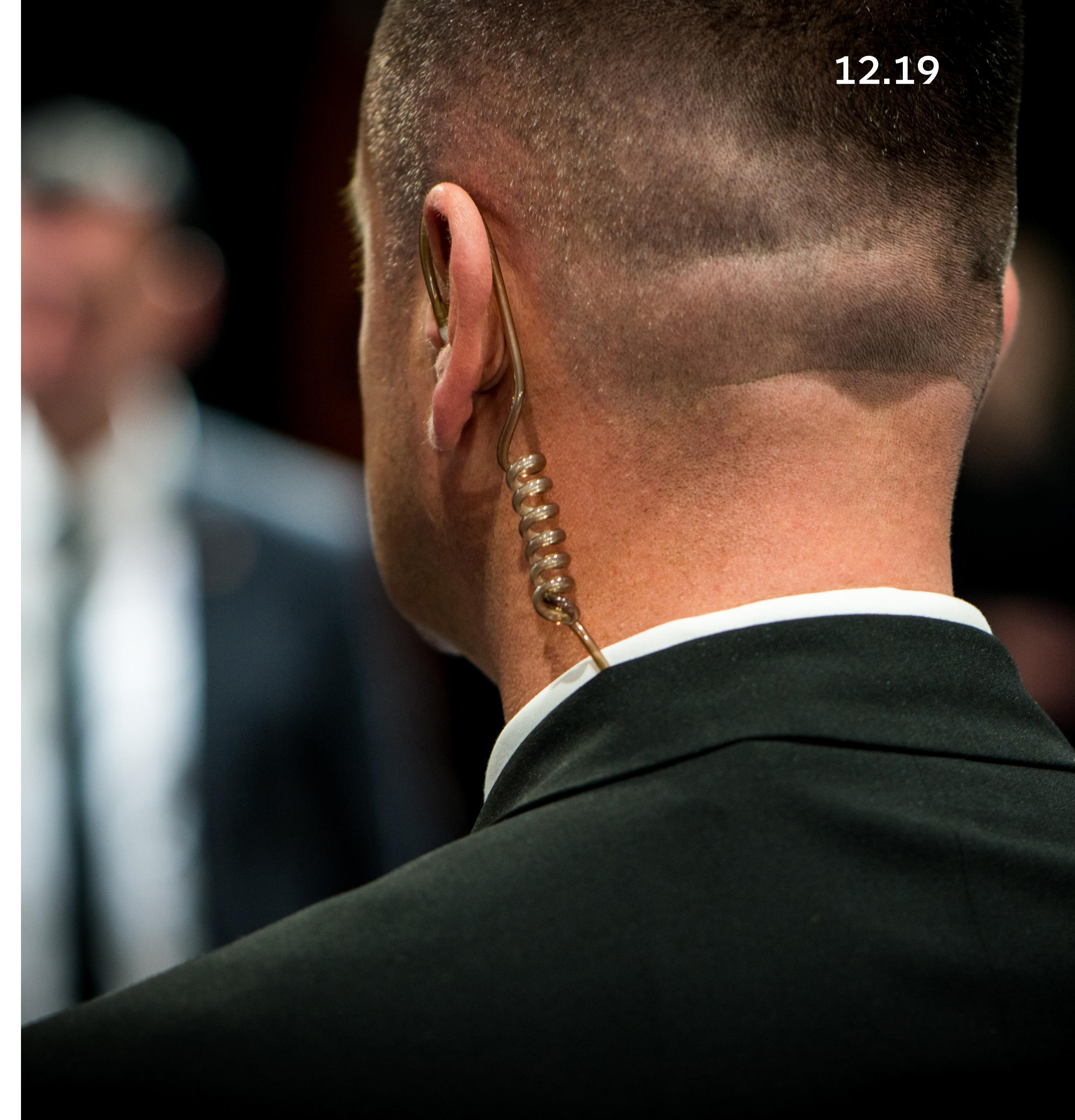
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Secrets

Jenkins offers good options to manage secrets and read those from encrypted repositories.

The secrets can be used in many ways:

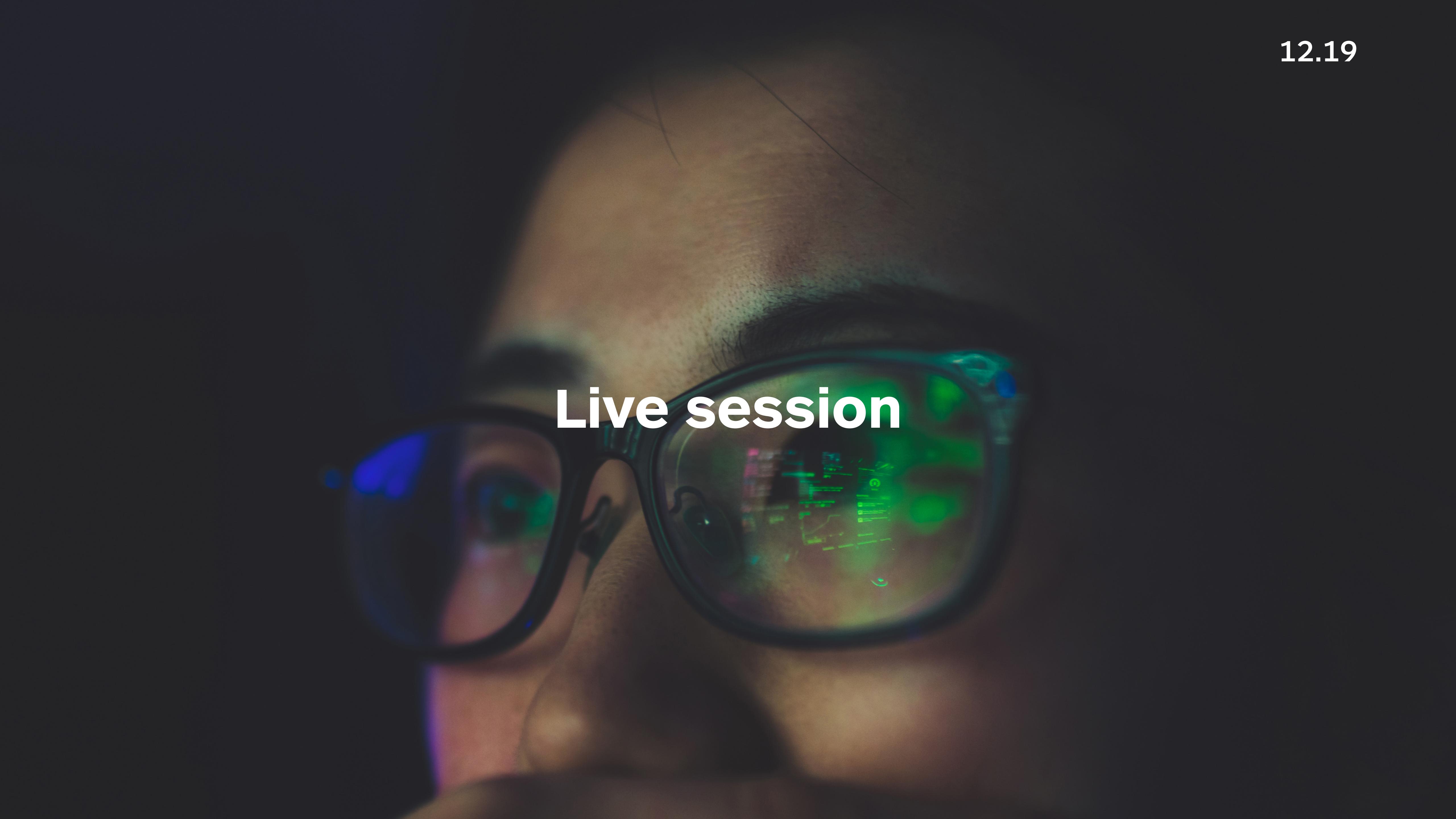
- Input parameters for jobs
- Accessing servers
- Access to saas/paas





Dashboard & Monitor

The **Jenkins** web interface is in fact already a monitor with a small dashboard feature, but can be further **enhanced via plugins**.



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A CRAZY EXPERIMENT!

References

- <https://jenkins.io/>
- <https://github.com/jenkinsci/ec2-plugin>
- <https://github.com/jenkinsci/proxmox-plugin>
- <https://jenkinsci.github.io/job-dsl-plugin/>
- <https://wiki.jenkins.io/display/JENKINS/SSH+plugin>
- <https://plugins.jenkins.io/postbuildscript>
- <https://wiki.jenkins.io/display/JENKINS/LDAP+Plugin>
- <https://wiki.jenkins.io/display/JENKINS/Build+Monitor+Plugin>
- <https://www.burgestrand.se/hue-api/>
- <https://github.com/bsramin/jenkins-talk>



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Work with us

Information technology

- Senior Backend Developer
- Senior Full-stack Developer
- Head System Engineer - Site Reliability

Design

- Senior UX/UI Designer

Artificial Intelligence and Machine Learning

- Language Data Scientist (Mid Level)
- AI/ML engineering intern (entry Level)

<https://picampus.it/benefits/>

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Thanks!