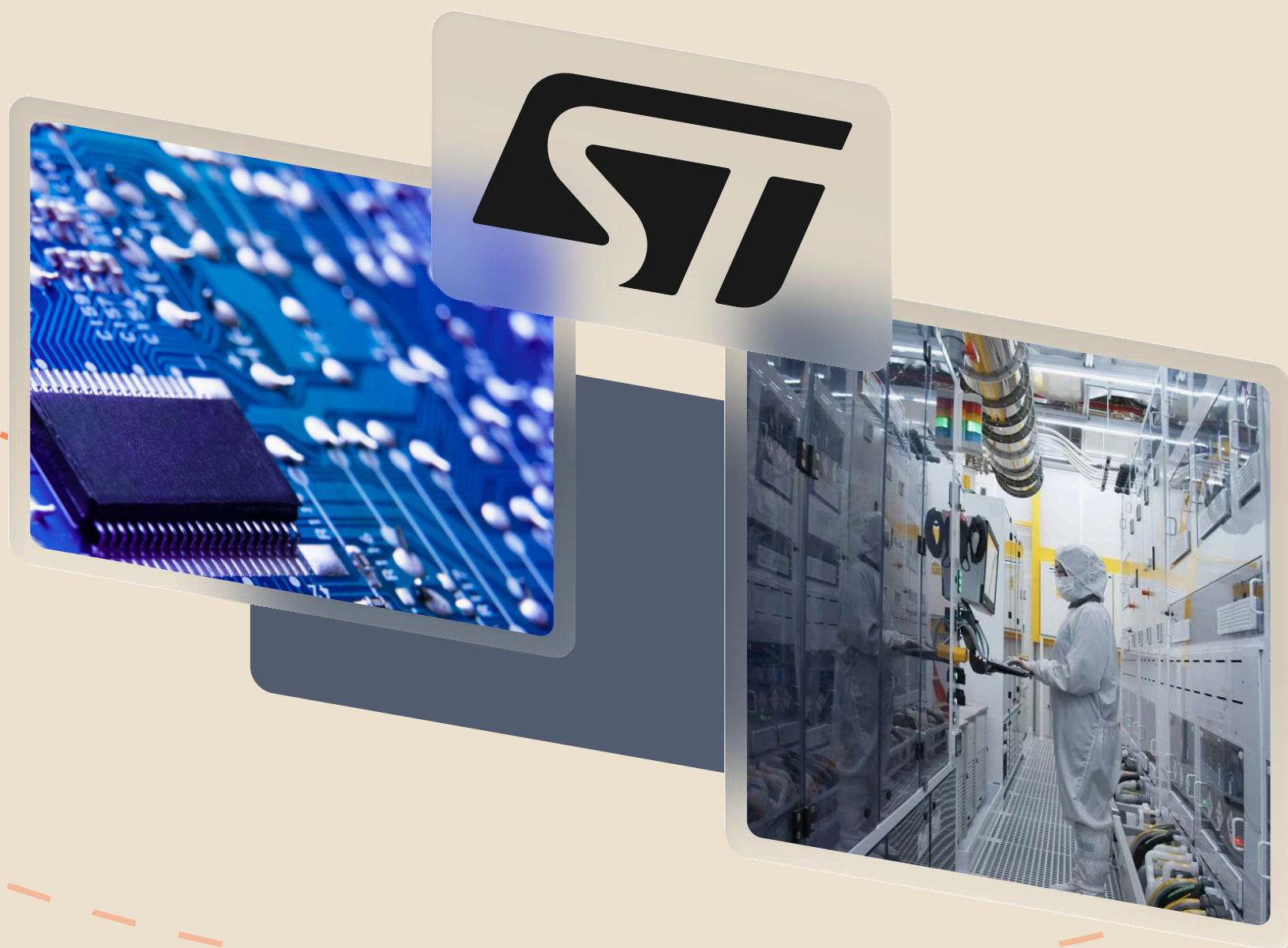


STMicroelectronics

gains full control over complex
software systems application
lifecycle with Tuleap



Centralized software development project management

A complete development
chain & full traceability to
facilitate ISO certifications.

10K

Collaborators, 4 Tuleap instances

internally & externally
to manage projects in
a productive way.



Sustainability & innovation

Improved product
traceability via
centralized information
management.



Summary

The organization

STMicroelectronics is now part of the world's leaders in both the semiconductor and the industrial applications industries. To be competitive, the manufacturer had to master the entire software production chain delivery.



Stefano Amadori

Stefano Amadori is in charge of tooling software development teams at STMicroelectronics.

The challenge

The Internet Of Things (IoT), smart objects... software is at the very heart of industrial products. Software is what now brings value to customers. In this context, the manufacturing processes of industrial products have no choice but to go with the flow and keep evolving.

Even though software development was not the core business of STMicroelectronics originally – which is rather likely to be the case for other big industrial corporations influenced by the digital transformation – they had to follow along and make it a top priority. To secure ST leadership position, they had no choice but to master their software development process, from R&D to manufacturing.



Why did ST choose Tuleap to manage their software development chain?

The organization is developing technologies that are embedded in everyday products: cars, medicine, phones, even in our own house... With 10,000 employees in R&D, STMicroelectronics decided to install 4 Tuleap instances to manage their software projects from A to Z as well as to facilitate collaboration with external partners.



Tuleap is one of the most cost-effective solutions on the market.

— Stefano Amadori, Solution Manager at STMicroelectronics



One unique solution to achieve multiple challenges

Let's take a closer look at every challenge STMicroelectronics had to face. Spoiler: each one of them had been successfully mastered thanks to Tuleap.

STMicroelectronics Challenges

1. **Empowering teams** to efficiently develop complex software applications
2. Launching products that **comply with certifications and ISO**
3. Maintaining **highly secured environments** with access management
4. **Collaborating** and **sharing** documents
5. **Promoting agile approaches** for project management

Tuleap Solutions

- Providing an **all-in-one solution for application lifecycle management**, enabling requirements management, project management, software development, testing and quality assurance processes and maintenance
- **Systematic traceability** throughout the lifecycle of the project which facilitates audits
- **Centralized Authentication** via SSO, **Fine management of permissions** on each tool, Monitoring of **all accesses** and modifications history, Creation of **user groups** with specific rights
- Collaborative documents workspace for each project environment
- Tuleap provides tools for agile approaches: Agile Dashboards, Scrum, Kanban, Agility at scale



Trusting a real professional support

With thousands of daily users of the Tuleap platforms, STMicroelectronics wanted **the assurance of responsive expert support** in the event of an incident.

"Tuleap SLA allows us to reduce downtime to minutes."

The Tuleap Enterprise Edition Diamond subscription provides IT teams with high-level technical support, with guaranteed response times (SLA).

Meet teams expectations and avoid shadow it

Early on, STMicroelectronics identified the problem of shadow IT, a phenomenon where users that don't feel like being given the right answers to their needs take the freedom of installing or manufacturing their own tools.

"With Tuleap, we benefit from a very high level of reactivity and an attentive ear to make the product evolve according to our needs."

To avoid both losing control over their homemade tools and the hidden costs associated with this type of behavior, ST has subscribed to the Tuleap Open Roadmap™. This way, the IT department collects the requests of its internal customers and thus collaborates with Enalean.

"We can participate in the evolution of Tuleap thanks to our partnership with Enalean to ensure that the tool meets our needs. The product evolves according to our expectations, over the years."



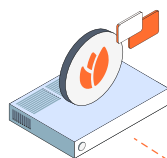
How does STMicroelectronics use Tuleap ?

4 Tuleap instances to facilitate collaboration both within the organization and with external partners

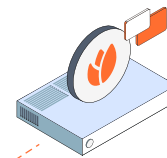
At STMicroelectronics, 4 instances have been installed for internal and external software development:

- **1 main instance, used by 8,000 users** for internal Research and Development projects. This platform must be highly available; data is replicated in real time across 2 data centers;
- **1 instance of 300 people for the management of highly confidential data** on an isolated network for security matters;
- **1 instance of 1,000 people for developments in collaboration** with external partners and customers (research laboratories and partner companies worldwide);
- **1 instance dedicated to Product Engineering** for versioning and sending test patterns to factories, on a highly available platform with a dedicated Jenkins infrastructure.

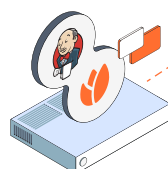
300 utilisateurs
Gestion de données
hautement confidentielles



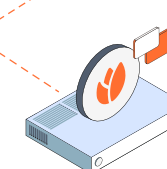
8000 utilisateurs
Projet de R&D internes



1 instance dédiée
à l'ingénierie Produit +
infrastructure Jenkins



1000 utilisateurs
Projets de R&D externes
(partenaires, clients)





Unified management of internal developments

To turn the simple idea of a new chip into an innovative application, it implies having a vision and a good understanding of the final product in advance, following the evolution of requirements and the progress of the project.

One of ST's challenges was **to centrally manage** software projects and **to control the different versions** of its software over time. Now, with Tuleap, engineering teams succeed in handling the entire lifecycle of their applications. With a single solution, **ST teams manage all stages of their software project**: requirements management, project planning, code versioning, testing and maintenance. The gains for the teams are significant:

- **faster** developments,
- better **projects visibility**,
- **high-quality** products,
- **happier teams**.

"At ST, a project brings together 2 to 800 people. And we have hundreds of projects on Tuleap."

A demanding quality assurance plan to meet standards

Software for industrial products have one specificity: they demand an irreproachable level of quality. Hence, it is of paramount importance to develop a Quality Assurance Plan to validate the software before it goes into production.

ST makes it a top priority to ensure the quality of its products. To go through the entire software development cycle, ST uses the Tuleap Test Management module which is integrated into agile project planning tools. Thus, the test and validation processes facilitate audits of compliance with **ISO 9000, 9001, 9004, IATF 16949, ITIL**.

Beyond development teams

As a project management software, Tuleap is not only built for R&D teams. At STMicroelectronics, the flexibility of the tool seduced the whole company and Tuleap was soon naturally extended to other departments. For instance, **the purchasing center uses Tuleap to manage its supplier qualification process**.



Results : end-to-end traceability and better collaboration across teams

From now on, STMicroelectronics manages and follows the entire creation process of its electronic components, from R&D to manufacturing. These components are subsequently included in final products by their 100,000 customers, such as Apple, Samsung, Huawei and Nintendo. These end products can include two types of software:

- embedded software in cars, phones, sensors for IoT ;
- peripheral software: drivers, development kits (SDK)

With Tuleap, the STMicroelectronics teams benefited from :

On the CIO side:

- A **unified and safe work environment** for 10,000 people;
- Simplified user management and maintenance, **reduced TCO**;
- A very easy-to-maintain and **cost-effective solution**.

On Dev Teams side:

- **Better project management** with a workflow adapted to the specific needs of each team;
- **Better collaboration** both with on-site collaborators and external partners;
- **A to Z traceability** for flawless quality assurance and audits.



With Tuleap, we handle the entire creation of our software chips, from R&D to manufacturing.

— *Stefano Amadori, Solution Manager at STMicroelectronics*





joins

