

How Bosch built a digital factory and eliminated shadow IT

500+

productive
apps

24,000+

OutSystems end-users
in 12 months

400+

active
developers

Challenge The risk of shadow IT

As one of the biggest names in engineering, Bosch has an equally large IT department. With over 11,000 collaborators, this unit delivers most of the company's internal apps. However, the IT team worked with a limited budget, meaning requests with a higher return on investment would always jump to the top of the pile.

This led to a problem: a few business units, tired of not having the solutions they needed, started developing applications without the support and supervision of central IT.

Aware of the security risks this approach presented, one of the Engineering business units proposed using OutSystems to give the business the autonomy to create the apps they needed in a structured way that was still supported by IT.

Solution Making app development more accessible

At Bosch, a 'citizen developer' is anyone outside central IT that develops apps. That means that most of them have a STEM (science, technology, engineering, and math) background, so while they might not be web or mobile app development experts, they're familiar with logical and analytical thinking.

To make this program successful, Bosch focused on three key areas:

Enablement: Bosch offers weekly training sessions to help collaborators become OutSystems power users and has created an exclusive platform sandbox for these business technologists to play and get familiar with OutSystems. The company also provides consulting services with professional OutSystems developers to provide assistance.



“ We chose OutSystems after a POC where a pro-developer and a business user built a failure report solution. The app was such a success that we still use it to this day. ”



—Elton Escaleira, IT Product and Service Owner

“ In a single year, we trained over 1,000 people on OutSystems. That shows how fast you can scale with this platform. ”



—Juliane Ludwig, Tribe Lead Automation and Low-Code Platforms

Platform governance: The company built a development environment on top of OutSystems Service Studio, offering the business a simplified version of the platform's out-of-the-box IDE that includes a set of templates and layouts for them to use.

Reusable components: These OutSystems users have access to pre-built, tested components from central IT to build apps that comply with Bosch's standards quickly.

A Center of Excellence is responsible for taking care of everything related to the platform infrastructure and vendor relationship to comply with Bosch's guidelines. Within this team, Bosch has also set up a Customer Loyalty Team for additional development support.

Juliane Ludwig, Tribe Lead Automation and Low-Code Platforms, explained: "If business users don't have the time to build the apps they need, or the complexity is beyond their scope, they can submit a request to our factory, and a team of professional developers will build it for them. This approach gives better control and governance over the tools the business uses while also responding to their needs."

Results 4 Years, 500 apps—and counting

So far, Bosch has delivered over 500 applications.

The list includes an **AIoT solution for digital planning and shop floor support**. Using AI, "Skillinx" matches workers to machines based on required skills, ergonomics, physical condition, and available resources. It also recommends protective equipment for specific workstations based on chemical exposure risks. Before "Skillinx", ramping up a team for a new assembly line took Bosch four weeks, now it takes four days.

Another app worth highlighting is "Halo" that **uses Bosch's hyperautomation framework to determine the right tool and the required developer skill level** to implement an automation demand, whether it's an app, file transfer, robotic process automation, or other hyperautomation tasks.

In one of the apps the team built, Bosch compared the costs of building it with OutSystems versus .NET or Java. Using traditional development, it would take 480 days and cost €144K (at €300/day per developer). With OutSystems, the project only took 120 days and cost €36K.

“ The medical team is using standard PCs, the workforce are using ruggedized PCs in an industrial environment, and the health and medical teams are using a tablet. With OutSystems, we were able to integrate everything and meet the different requirements, and we are now working towards a mobile app. ”

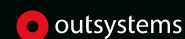


—Nelson Ferreira, Industry 4.0 Coordination

“ OutSystems is ideal when we need quick and flexible development. It allows us to just build it instead of pushing it into a two-year backlog. That's the platform's greatest advantage: the ability to not say no. ”



—Valério Matias, IT Manager for Software Development



Build custom
applications and
AI agents, faster.

