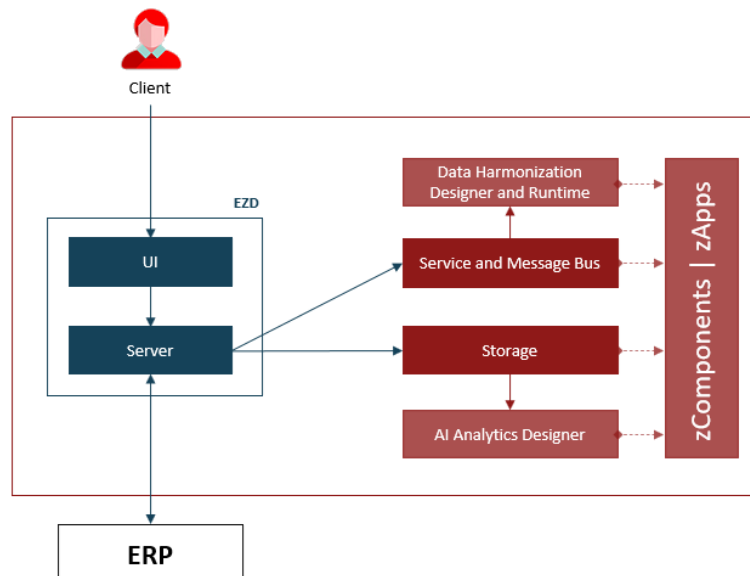


## Enterprise Integration for Zero Defect Manufacturing

By João Pereira, FORCERA

### Project Details and Motivation

For ZDMP users who want to integrate ERP (Enterprise Resource Planning) software with the main platform, EZD (Enterprise Integration for Zero Defect Manufacturing) is a zApp that allows fast and intuitive data exchange between the two systems. EZD doesn't require hard skills for setup which saves ZDMP users time and supports the Industry 4.0 strategy to connect all factory systems into one unified platform.

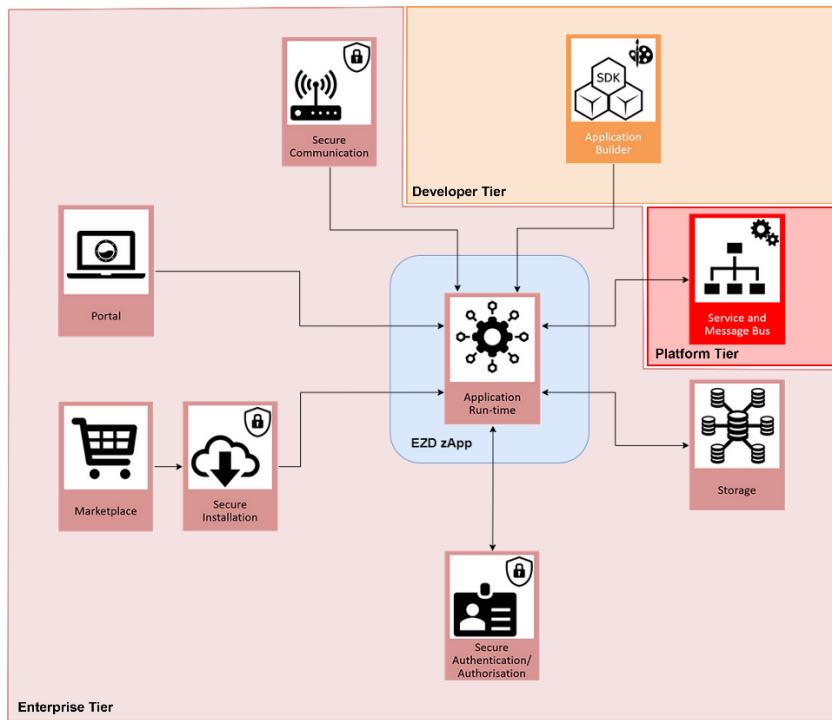


*EZD connects ERP with ZDMP*

As stated in EZD's Product Vision, this zApp will contribute to a significant boost in automation and interoperability within ZDMP-enabled factory floors. It will support several business use-cases that are of great value for manufacturing companies.

### ZDMP Fit

EZD will use and communicate with zComponents from Enterprise, Developer and Platform tiers, where Enterprise is the most requested tier by this zApp. The Application Run-Time will play the function of the core component as it will provide the means to host and serve the application to the end-user. This zApp will be purchased and installed with Marketplace and Secure Installation as well as accessed via ZDMP Portal. The Secure Communication will provide the means to encrypt communication within EZD while Secure Authentication/Authorisation will regulate accesses to the application. There are two possible receiving outputs (Storage and Service Message Bus), which in the case of Service and Message Bus, will also provide the API gateway function for ERP upstream communication. Finally, the Application Builder zComponent will be requested to get layout and design elements into EZD's UI.

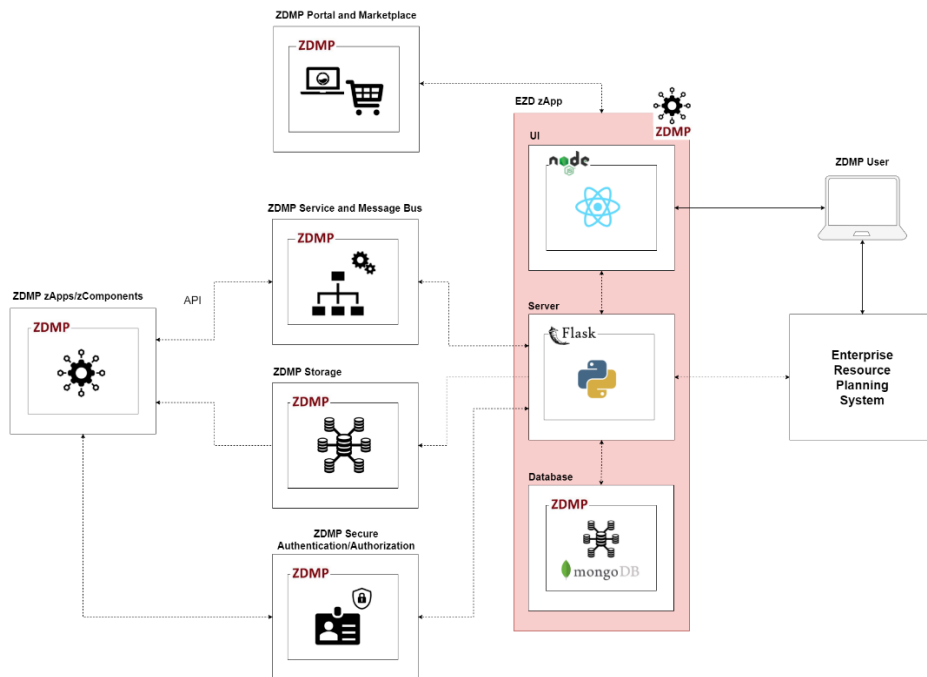


*EZD fit in ZDMP Ecosystem*

## Results to Date

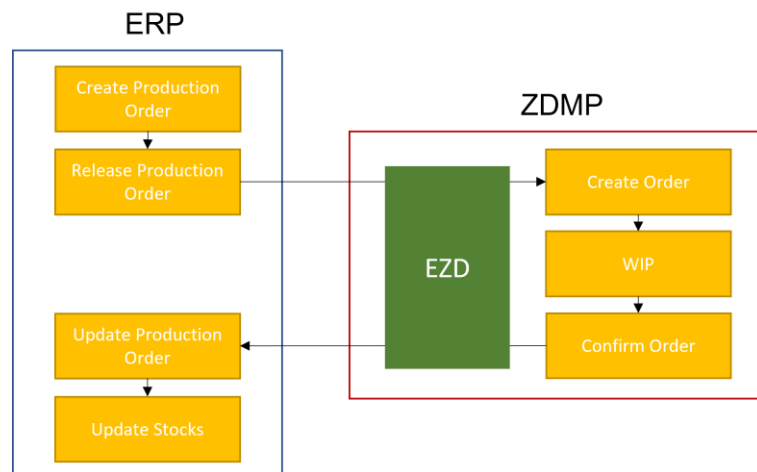
To date, FORCERA has put its efforts into creating a solid application structure and setup environment by:

- Defining EZD's final architecture and interaction with all zComponents.



*EZD detailed architecture*

- Defining an experimental scenario and developing of a working demo with resort to a representative ERP system.



Manufacturing simulation workflow for development purposes

This setup provides a typical manufacturing cycle of submitting a specific production order and confirming it after its completion. This scenario will be able to cover all EZD’s functionalities and demonstrate a business case that is widely used in industrial sector organizations.

## Participant Details

**Organisation(S):** FORCERA:

- **Web:** <https://forcera.pt/>
- **Contact:** [jcp@forcera.pt](mailto:jcp@forcera.pt)
- **Profile:** FORCERA is a Software Development, Analytics and AI technology company. We aim to transform organisations by leveraging Advanced Analytics and AI over enterprise-level data. We understand that each business is unique and love to be challenged to deliver the most exclusive and intuitive solutions, by connecting clients’ industry expertise and our technological skills.

## Environment

The ZDMP – Zero Defects Manufacturing Platform – is a project funded by the H2020 Framework Programme of the European Commission under Grant Agreement 825631 and conducted from January 2019 until December 2022. It engages 31 partners (Users, Technology Providers, Consultants and Research Institutes) with a mission to “Provide the platform, components, services, and marketplace to achieve the right product, at the right time, with the right conditions using the right resources.”. Further information can be found at [www.zdmp.eu](http://www.zdmp.eu). ZDMP channels 3.2M€ of SME orientated funding to subprojects, such as this one to both facilitate SMEs with their innovations and increase the value of the ZDMP ecosystem,

## Links

• <b>Primary Partner:</b>	<a href="mailto:info@forcera.pt">info@forcera.pt</a>
• <b>Sub project website/blog</b>	<a href="https://forcera.pt/projects/zdmp/">https://forcera.pt/projects/zdmp/</a>
• <b>Architecture Component/App(s)</b>	Application Run-Time, Secure Authentication/Authorization, Marketplace, Secure Installation, Portal, Secure Communication, Application Builder, Service and Message Bus, Storage