

API Management Pattern with a Focus on Collaboration and Knowledge Sharing and their Implications

Gloria Bondel, SEBIS WORKSHOP, 24th June 2021

Chair of Software Engineering for Business Information Systems (sebis)
Faculty of Informatics
Technische Universität München
www.matthes.in.tum.de

The Strategic Importance of APIs Increases

APIs enable ...

- the creation of platforms
- direct or indirect monetization of resources (functionality or data)
- innovation based on access to resources
- compliance with current regulations



LUFTHANSA GROUP

Syncier



Tech Giants Provide more Successful APIs than other Organizations

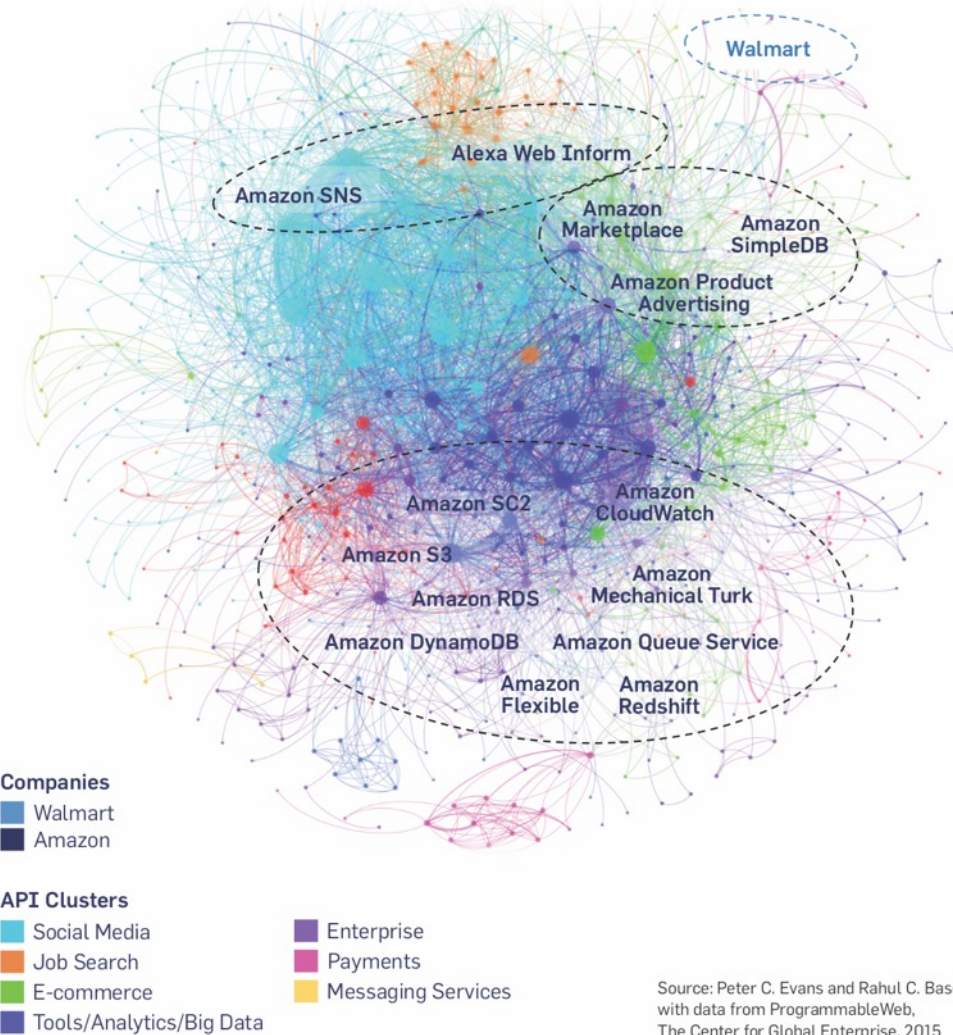
APIs generate value, increase productivity and create strategic advantages



However, APIs are not evenly distributed between companies and branches.



How can organizations that are not Tech Giants successfully provide APIs?



The Goal of the Pattern Language is to Document API Management Practices

Goal

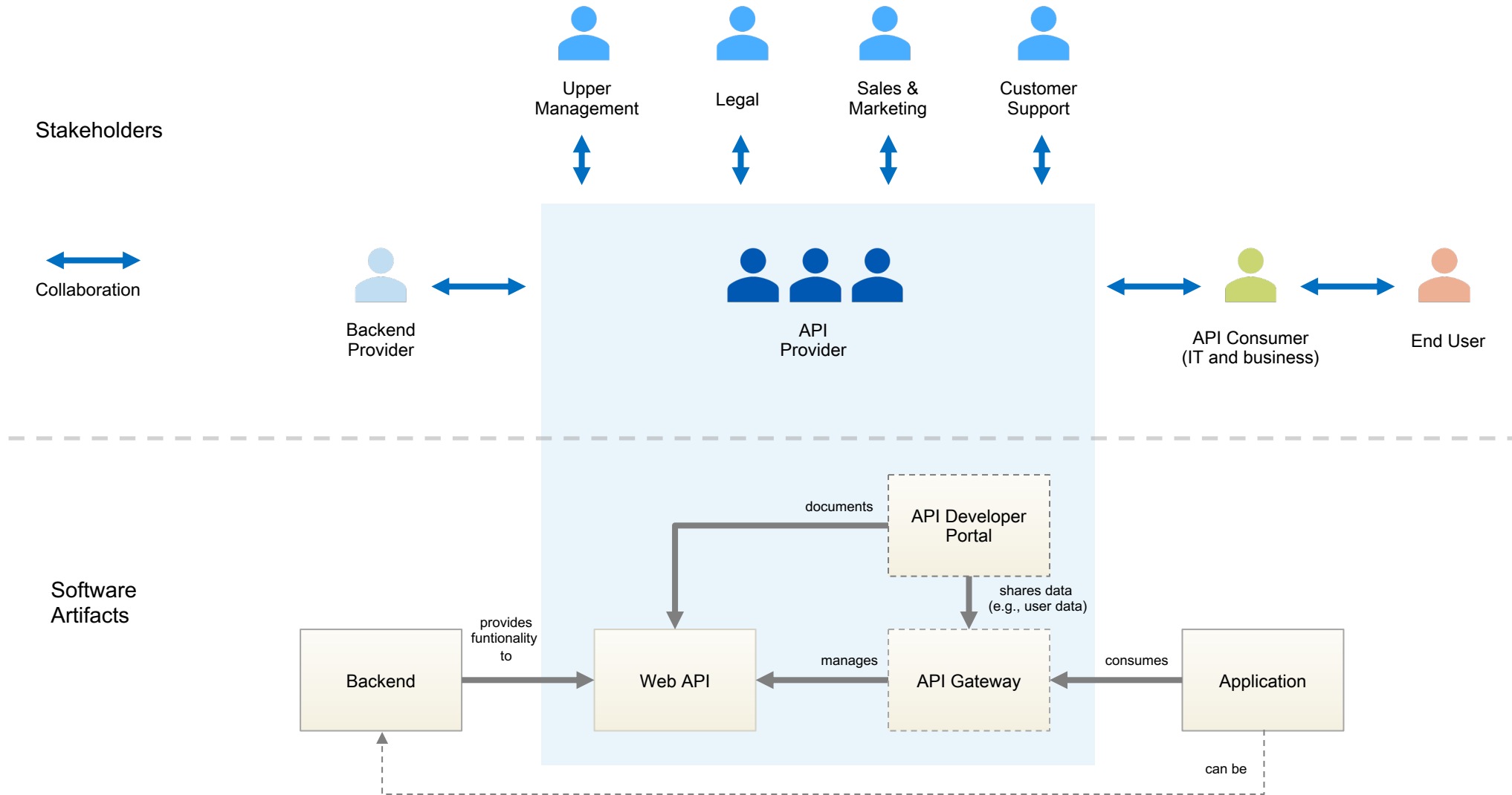
The API management pattern language aims to support organizations to initiate and manage **public**, **partner**, or **group** API initiatives.

- **Management patterns** focusing on knowledge transfer and collaboration instead of technical patterns
- A pattern language addressing the needs of **established organizations** and **SMEs**
- Target audience are **API provider teams**
- The patterns are phrased to meet the information needs of **business and IT stakeholders**

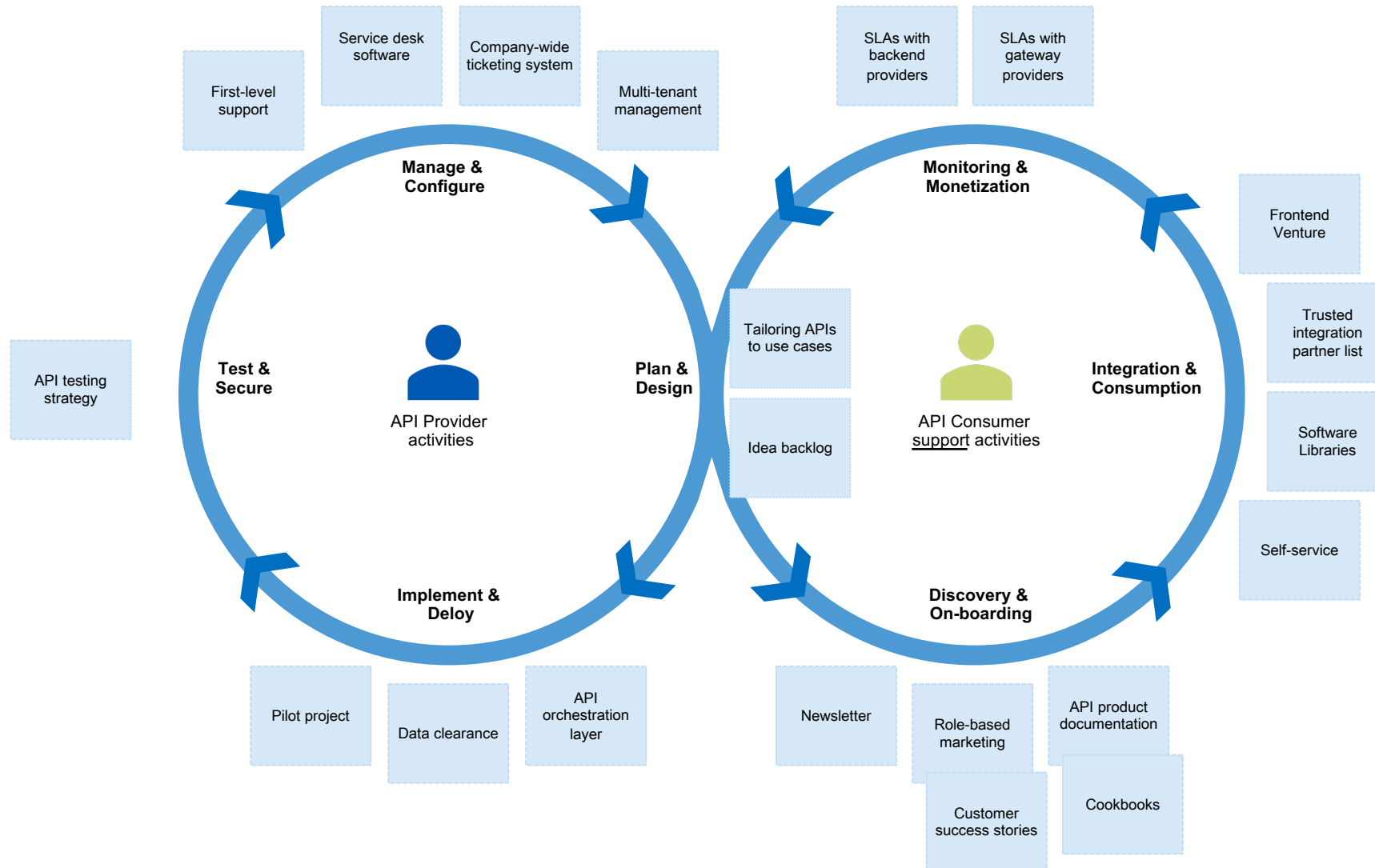


- ✓ Explore proven solutions and benchmark current practices
- ✓ Create a common taxonomy between API providers and API consumers as well as between IT and business stakeholders within an organization
- ✓ Basis for theorizing on collaboration and knowledge transfer within and outside of an organization

API Management is an Organisational Function at the Interface between an Organization and the API Consumer



The Patterns Address all Parts of the API Management Lifecycle



Selected API Management Pattern

Role-based marketing

Context:

Especially in established organizations, technical and non-technical stakeholders are involved in buying an API.

Problem:

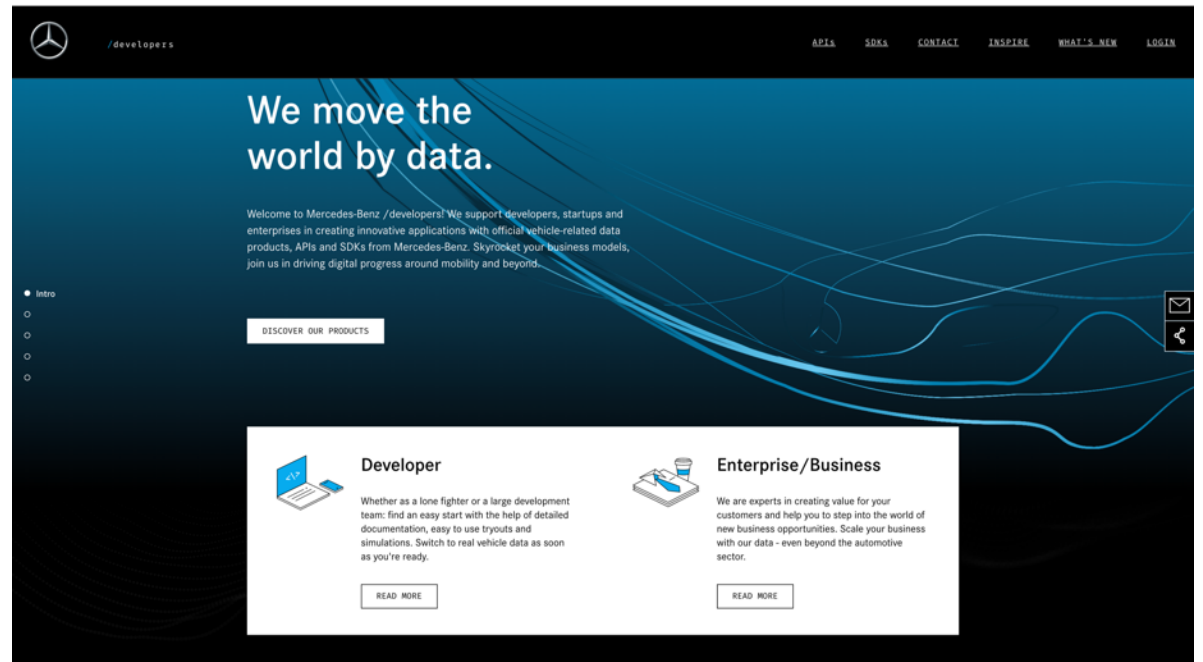
How can an API portal provider address the information needs of technical and non-technical stakeholders of a potential consumer organization?

Solution:

Role-based marketing denotes the design, maintenance, and clear separation of marketing material and other consumer-facing resources in the developer portal targeted at different user roles.

Rationale:

If the API provider offers strategic functionality, it has much impact on the business and is difficult to replace later. Thus, the business wants to be involved.

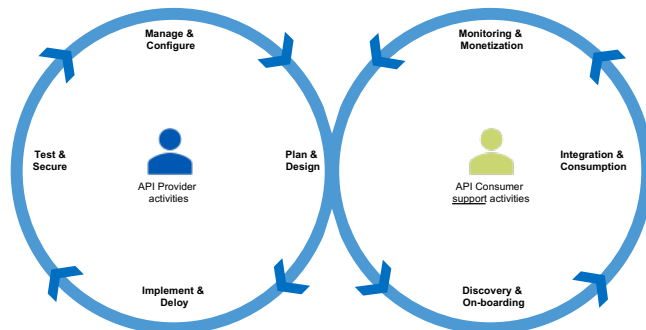


<https://developer.mercedes-benz.com/>

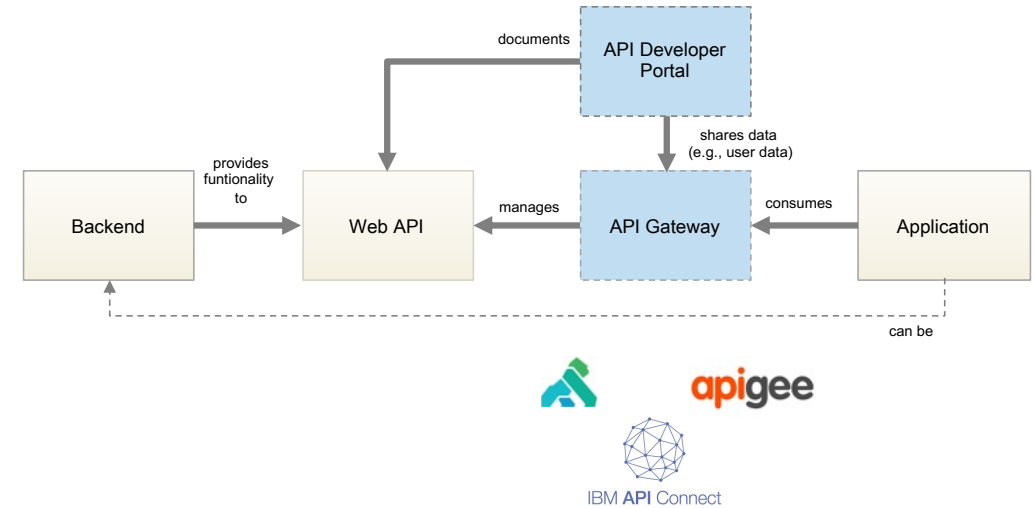
API management is ...

... platform management

Most discovery and collaboration between the API provider and consumer happens through the API portal and the API gateway. This includes documentation, sandboxes, libraries, etc.



1



2

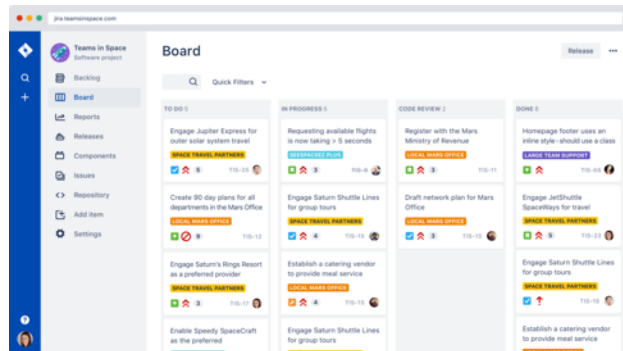
... product management

APIs are products or at least a channel for a product. Thus, APIs need to address customer needs and follow a product lifecycle. You will have to involve the business, sales and marketing, legal, etc.

... support management

API management has to support the API consumer during the buy-decision, technical integration, and following version changes. Support requests, bug reports, and business inquiries have to be managed.

3



<https://www.freelancemap.de/blog/jira/>

4

... defect management

Issues have to be forwarded to the associated team and tracked. Different teams can be responsible for an API. Stakeholders within the resolution chain might have different goals and priorities. Personal relationships and agreed processes are key.

... quality management

API consumers depend on the provided APIs. Therefore they want guarantees. In B2B relations, APIs commonly follow service-level agreements (SLAs) that specify the level of service provided to the consumer.



5



6

... communication

API management responsibilities can be distributed between roles, teams, and even organisations and require collaboration of internal and external stakeholders. Most importantly, the API management has to communicate with the API consumers and collaborate with the backend providers. Other involved stakeholders are API governance authorities, marketing, legal, and customer support.

Summary

- Most collaboration between the API management team and the API consumer happens through **software artifacts** controlled by the API management team.
- Collaboration between the API management team and the backend provider and internal stakeholders mostly focuses on **quality, defect, and incident management** across team, business unit, or company boundaries.
- API consumers are **not only the developers**. They are organizations.
- An organization should **adapt processes and the organizational structures** to successfully provide an API.

If you are interested in the final version of the API Management Pattern Catalog, please contact me at: gloria.bondel@tum.de



M.Sc.

Gloria Bondel

Technische Universität München
Faculty of Informatics
Chair of Software Engineering for Business
Information Systems

Boltzmannstraße 3
85748 Garching bei München

Tel +49.176.70825900

Fax +49.89.289.17136

gloria.bondel@tum.de
www.matthes.in.tum.de

