

HOW TO CREATE A REFERENCE ARCHITECTURE FOR BETTER MANUFACTURING SUCCESS

A Quick Guide

vincit

**DO YOU WANT
A REFERENCE
ARCHITECTURE
THAT HELPS YOU
LAUNCH NEW
PRODUCTS AND
SOLUTIONS
SUCCESSFULLY?**

WE DO.

Interested in how a reference architecture can help your business? Put simply, a reference architecture offers a pre-designed and standardized blueprint that guides you in building and implementing solutions and products more efficiently and effectively.

By defining key components such as business architecture, technology, and solution approaches, a reference architecture ensures alignment between IT and business goals, reduces complexity, and accelerates product development.

A reference architecture also minimizes risk by helping you use tried-and-tested approaches. In short, it gives your business a clear, reliable roadmap to follow, for example, when releasing new products – saving time and boosting the chances of success.

WHAT MAKES UP A REFERENCE ARCHITECTURE?

A reference architecture typically consists of the following elements:

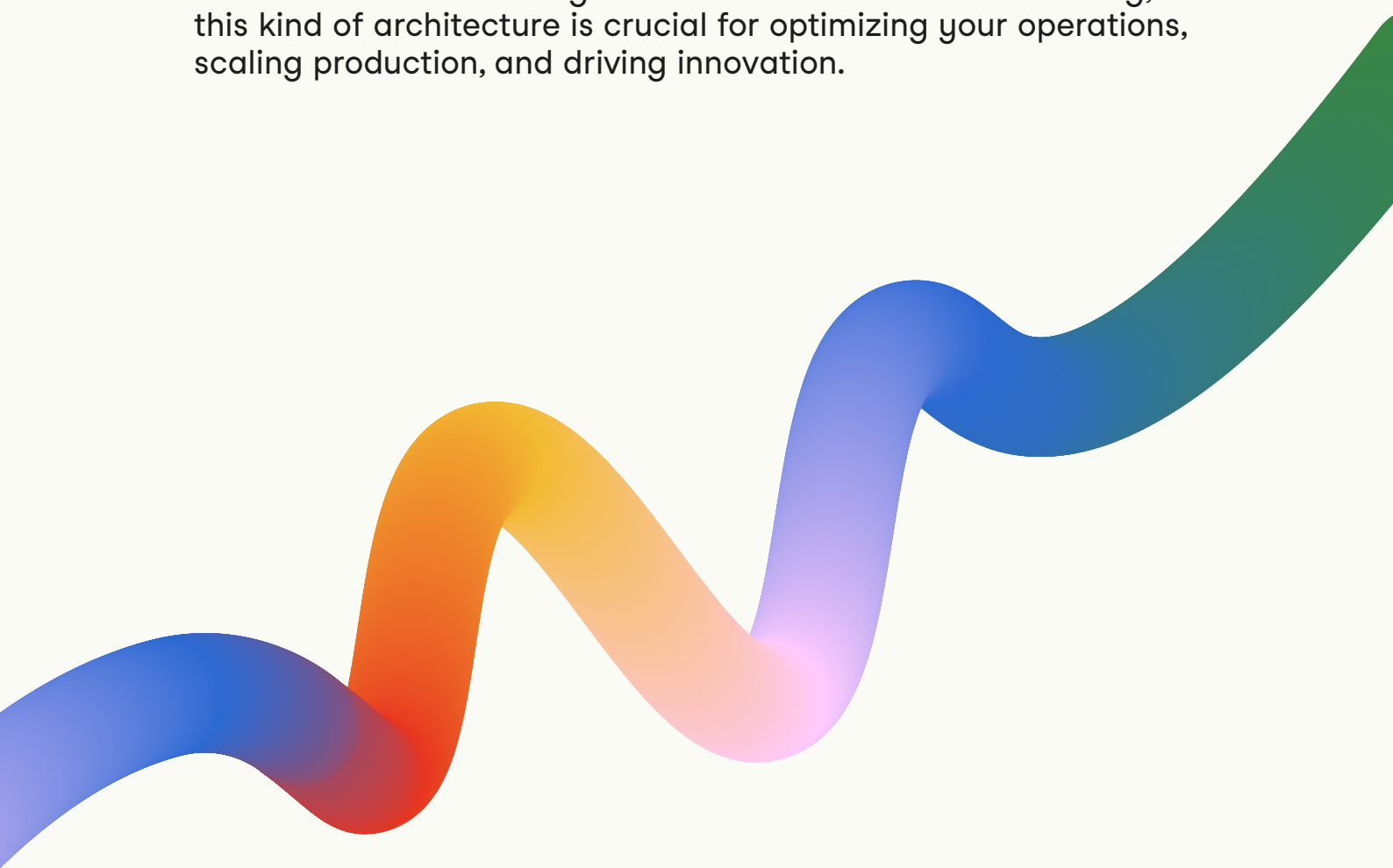
1. Business architecture
2. Technology architecture
3. Solution approach
4. Transformation roadmap



1. Business Architecture

A business architecture defines how your organization is structured to deliver value, from first ideas to finished products. A business architecture maps out your core capabilities like product design, manufacturing, supply chain, and sales – and aligns them with business processes. It shows how people, data, and technology interact to support your operations.

The goal of a business architecture is to ensure that every part of the company is matched with your strategic goals, leading to better decision-making and faster results. In manufacturing, this kind of architecture is crucial for optimizing your operations, scaling production, and driving innovation.



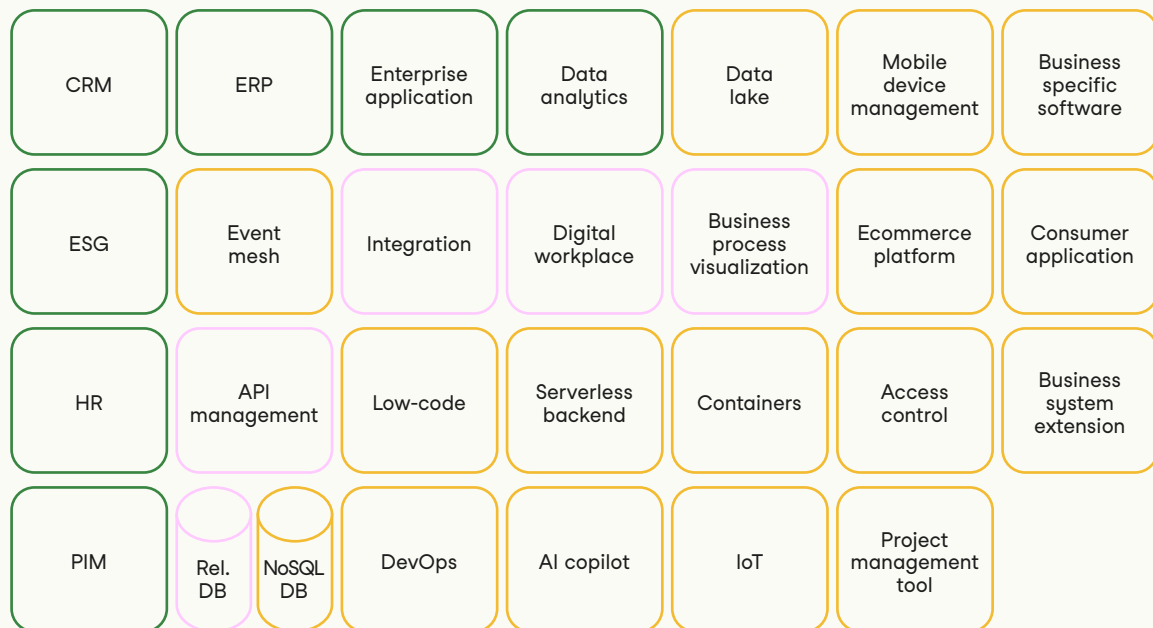
2. Technology Architecture

A technology architecture is always complex and doesn't always map neatly to the business architecture – but is still important to help you create new solutions and products. That's because the technology architecture defines the structure and organization of your IT systems, platforms, and infrastructure that support your operations and digital strategy.

A composable architecture focuses on building modular and flexible components that can be easily updated to meet your changing business needs. With a composable technology architecture, your business becomes more agile as you can evolve or replace individual components as needed without overhauling the entire system – meaning your IT environment is more responsive.

Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) are the core pillars of a technology architecture, as they manage customer relationships and operations.

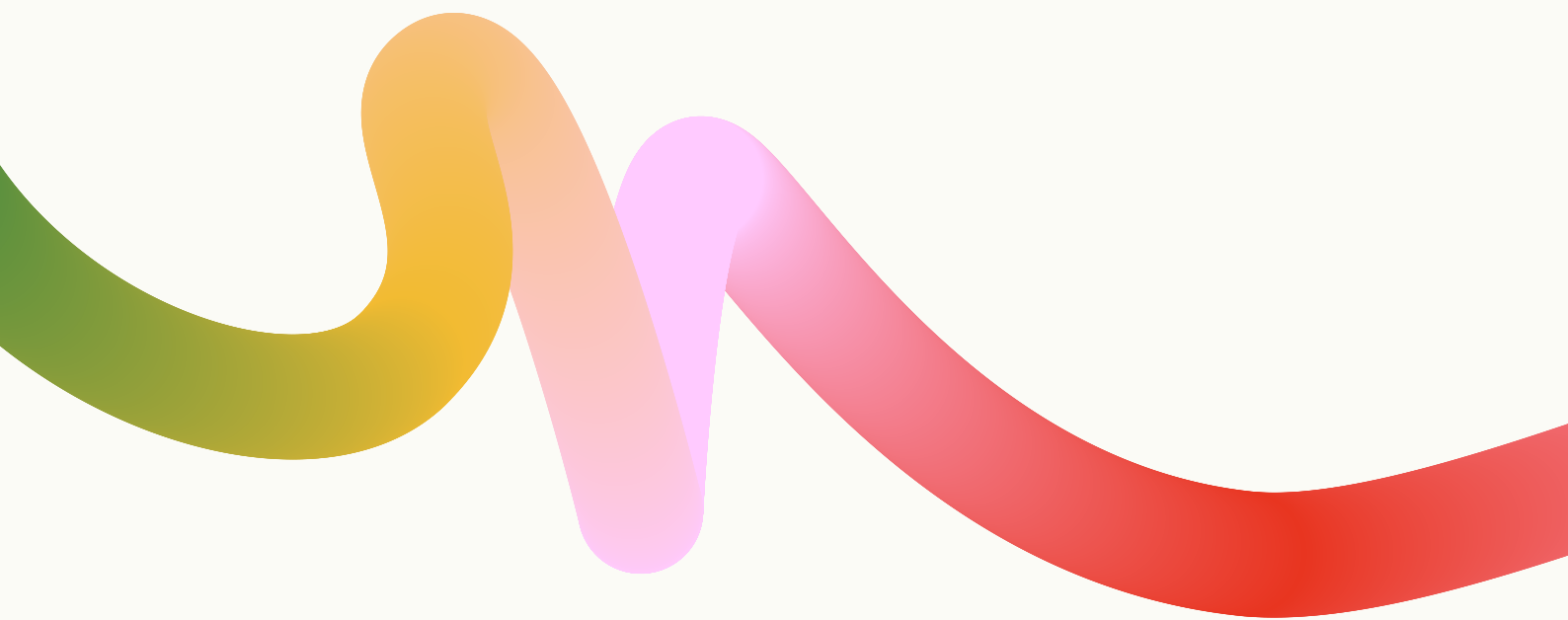
In manufacturing, an example of how these need to work together is as follows: imagine that a customer product needs servicing. Customer information is stored and handled in the CRM. To get the needed work done, we need to access the ERP for materials and resources. Smooth integration between the CRM and ERP is key, avoiding delays, as well as automating notifications and service orders. The goal is to minimize the number of manual procedures that stand in the way of progressing with the project at hand.



3. Defined Solution Approach

A solution approach provides you with a structured, proven method for designing and delivering new products and services successfully. A solution approach translates high-level business goals, such as faster time-to-market, improved quality, or increased innovation into concrete technology, AI, and process solutions.

Within the context of a reference architecture, the solution approach defines how different areas, such as R&D, your supply chain, and manufacturing, work together to support product development. By including the solution approach in the reference architecture, you get a framework that aligns people, processes, and technology.



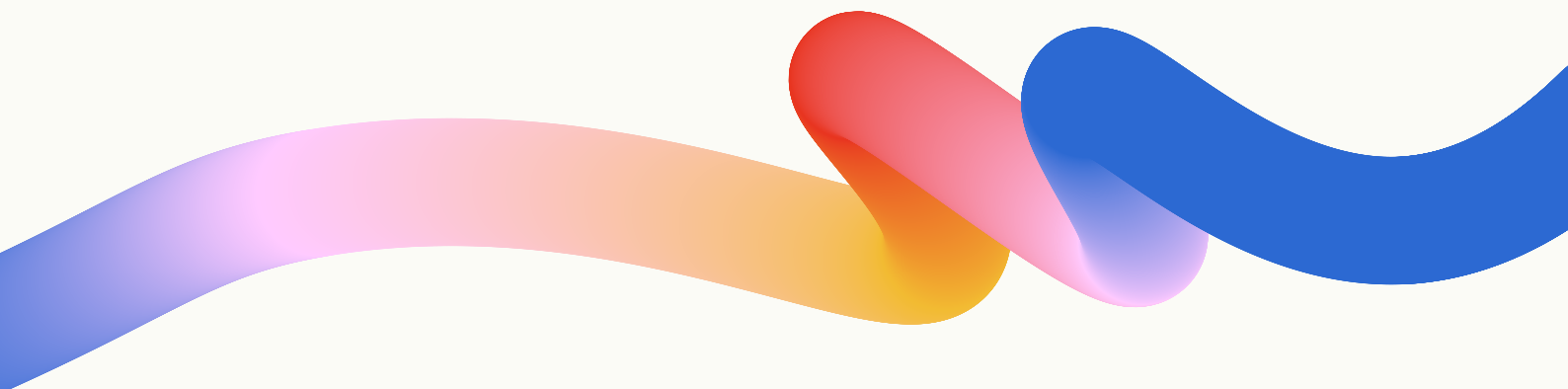
4. Transformation Roadmap

A transformation roadmap is a key component of a reference architecture for manufacturers looking to create new products successfully. The roadmap provides a plan that aligns people, processes, technology, and data.

The roadmap outlines key transformation initiatives and prioritizes capabilities and milestones. It connects your business and technology architecture to the specific solutions needed to support new product development, from ideation to production and delivery.

A transformation roadmap also outlines how to bring people onboard with change – getting employee buy-in is a key part of creating a shared vision about improving processes. Even the most technically sound architecture will fail to deliver value if users aren't prepared, engaged, and supported throughout the transition.

Change management helps align your business and technology architecture. It provides structured communication, training, and support to help teams adapt to new processes, tools, and ways of working. The end result is improved collaboration and faster time-to-market for new products.





WHAT ARE THE COMMON VALUE STREAMS FOR MANUFACTURERS?

As a manufacturer, you can find several areas where a reference architecture can help, from acquiring new clients to improving product support to developing new products.

Acquiring new clients: A reference architecture helps to standardize customer engagement processes and aligns your CRM systems with marketing and sales.

Improving product support: A reference architecture supports after-sales service through more standardized workflows for maintenance, spare parts, and feedback. It ensures better integration between field service systems and your ERP.

Developing new products and solutions: A reference architecture connects R&D, product lifetime management, and production planning with data and best practices, allowing faster prototyping and better integration with manufacturing systems.

Acquire new client → Manufacture products → Raise awareness in the market

Support products → Receive product training → Replace equipment

Develop new product → Deliver products → Send invoice

EXAMPLE OF A BUSINESS VALUE STREAM: DEVELOPING A NEW SOLUTION

THE BUSINESS CASE – INSTANT DOCUMENT CREATION

The business architecture is a guide to help you find value. In this case, imagine you want to improve the return on investment of your production line by optimizing ERP business document flow. This would eliminate the need to wait or ping others in workforce communication. There would be no material, assembly, or delivery waiting for a human to notice something needs to be done.

When a new material has been prepared in the plant and created in the ERP, what should happen? Your technology architecture helps guide what's possible. In this case, either people get notified to take action or the system proceeds automatically and shows it in a dashboard. With a reference architecture in place, creating new products like this is easier. Within SAP Build Process Automation touchpoints, you may proceed to assembly and delivery by approval or automation.

The solution approach helps define the actual product. In this case, a dashboard gives real-time monitoring of the process, while automation defines the instant possibilities. Having demand from resellers, deliveries are urgent. Inventory circumstances may raise a new campaign to optimize turnover.

Behind the scenes, there's always a need for APIs. Triggering manufacturing events, process step approvals, new process initiation, revenue optimization calculations, and AI requests are API calls. SAP Build tools consolidate these into a seamless business process approach to boost the document flow. The transformation roadmap is key here as it helps with change management – after all, there is no sense in building new solutions if no one uses them. The end result of having a reference architecture is a smoother development process that results in a transformational user experience.

Want to discuss how a reference architecture can help your manufacturing process? Contact us:



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