

From EFT to ERP

Young Scientist Workshop 2022 @Schloss Ringberg

Sungmin Hwang, SAP
May 12, 2022

Public

Agenda

1 Who am I?

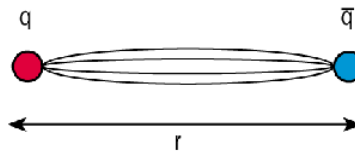
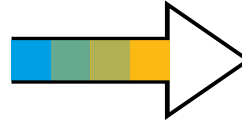
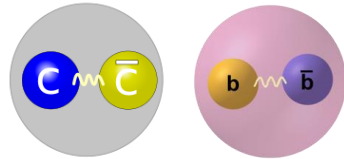
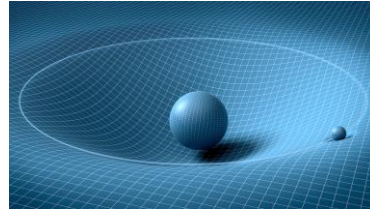
2 What is SAP?

3 What is ABAP?

4 Why SAP and ABAP?

1.1 Who am I?

My academic background & transition



THE BEST RUN



Effective Field Theories (EFT)

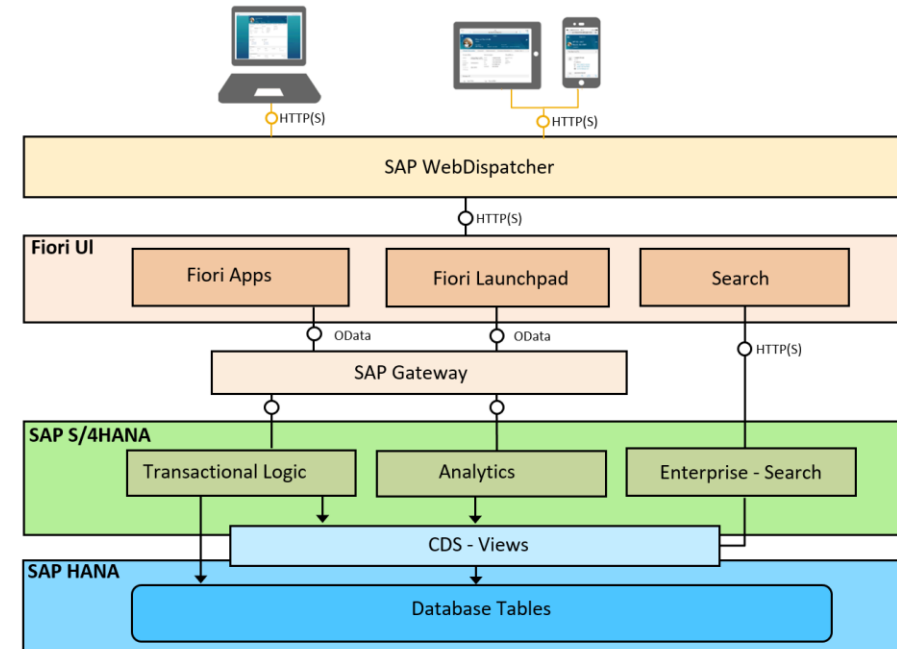
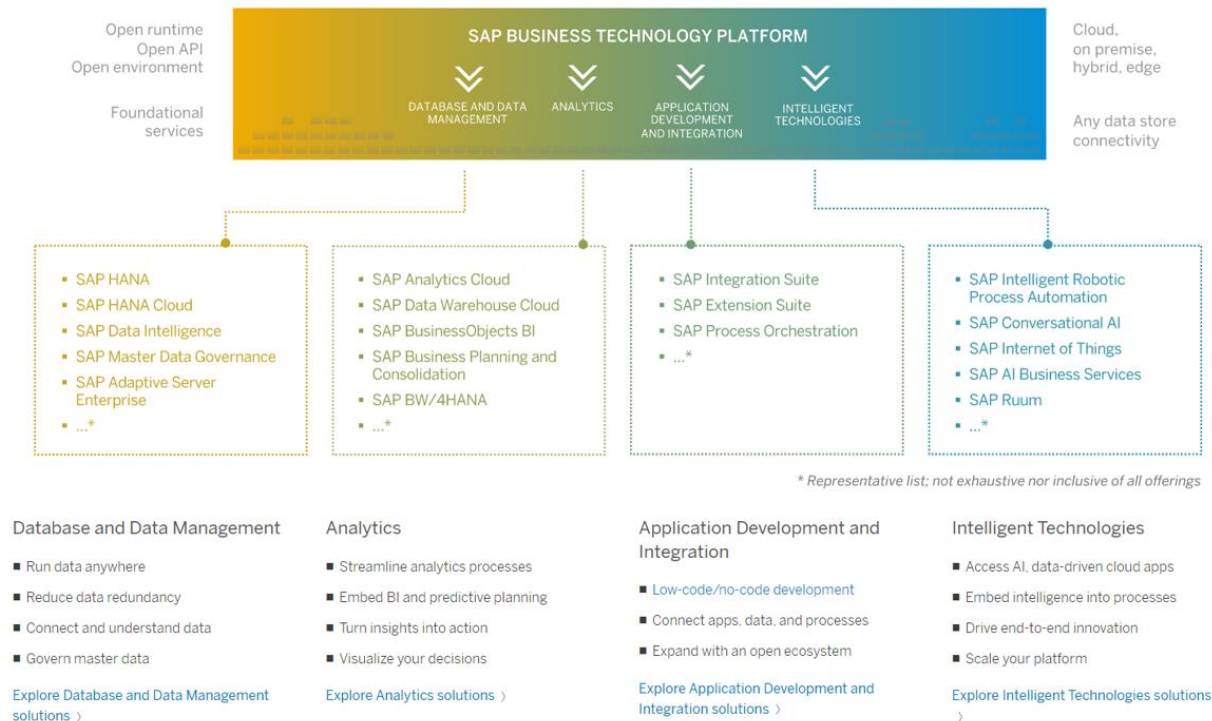
1. Gravitation: Fierz-Pauli spin-2 in curved background
2. QCD: Poincare & reparameterization invariance
3. String Theory: non-perturbative gluonic interactions

Enterprise Resource Planning (ERP)

1. ABAP Certifications (associate & specialist) by SAP
2. Started @SAP as of 1st of March, 2021 (Walldorf)
3. ABAP Platform development

1.2 Where am I @SAP?

My current role @SAP



Platform as a Service

- Business Technology Platform (BTP):** data & analytics, AI, application development, automation/integration unified in one environment
- ABAP Platform:** development environment for ERP applications, like S/4HANA Cloud
- Service Adaptation Description Language (SADL):** orchestration framework between gateway & kernel; compiler, runtime, SQL, testing
- Reliable and stable platform** for business transactions.

2.1 What is SAP?

1972 - 2022



Zehn Jahre SAP: Vier der Gründer im Jahr 1982 (von links): Dietmar Hopp, Hans-Werner Hector, Hasso Plattner, Klaus Tschira. Fotos: SAP/dpa/Archiv



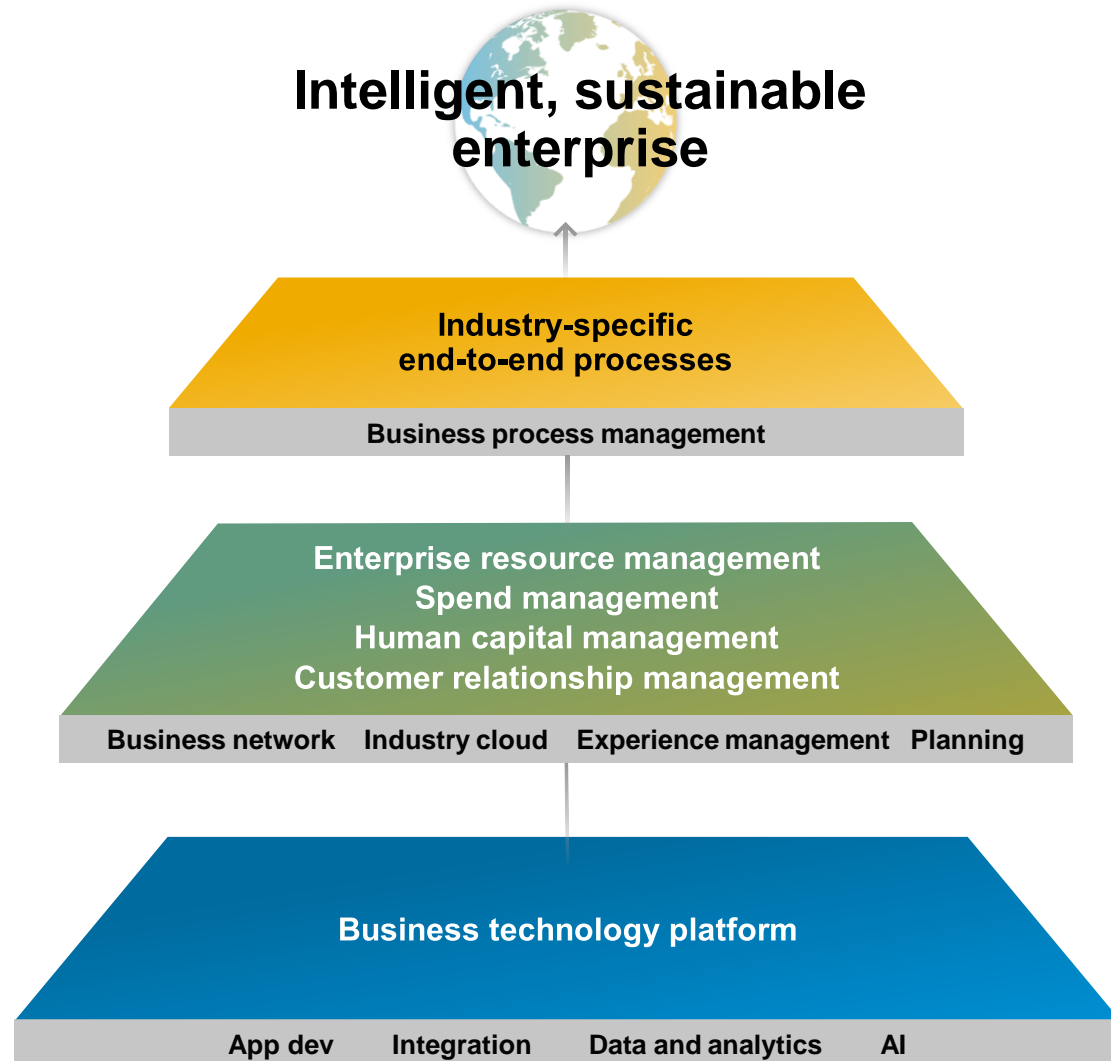
Christian Klein, CEO of SAP SE since 2019

Source: Rhein-Neckar-Zeitung (April 2022)

1. Founded by former IBM scientists and engineers, with a vision of developing “**Business Processes**”, on 1st of April 1972.
2. Started with an inventory management software development and quickly expanded into many different branches of private as well as public industry sectors.
3. Today SAP’s portfolio spans a wide range of applications - production planning, finance, human resource, customer relationship, supply chain, procurement, logistics, etc.
4. SAP is the **market leader in Enterprise Resource Planning (ERP)** software, where nearly 80 percent of business transactions are powered by SAP system. Also, it’s the largest software company in Europe.

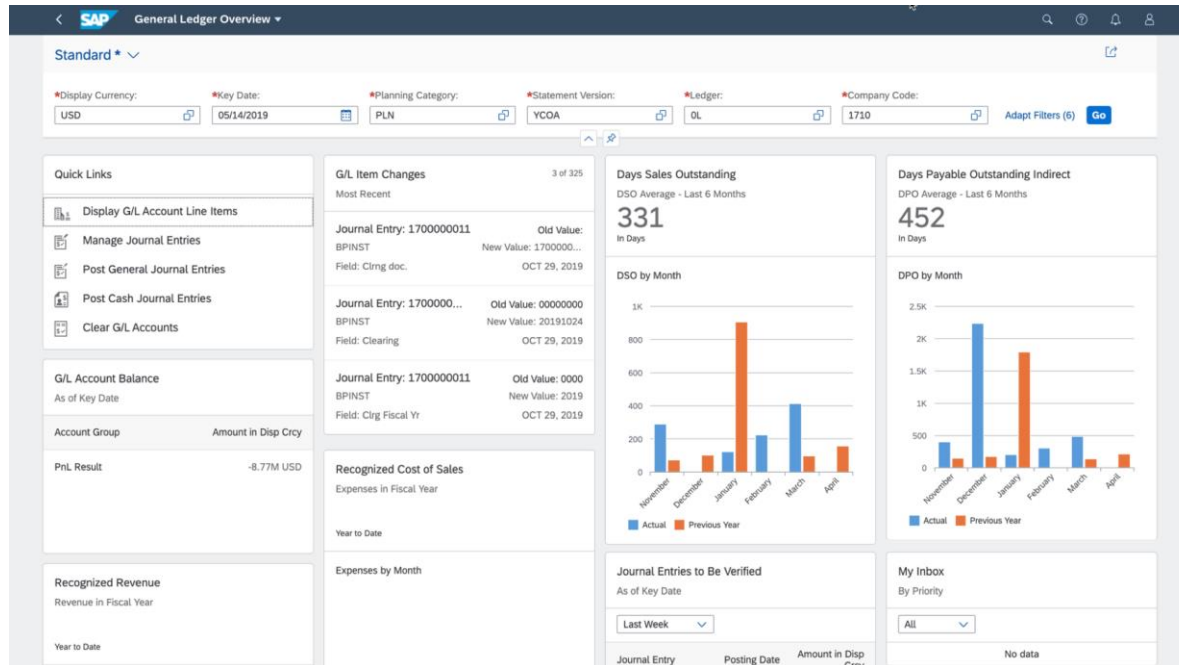
2.2 What is SAP?

2022 and onward



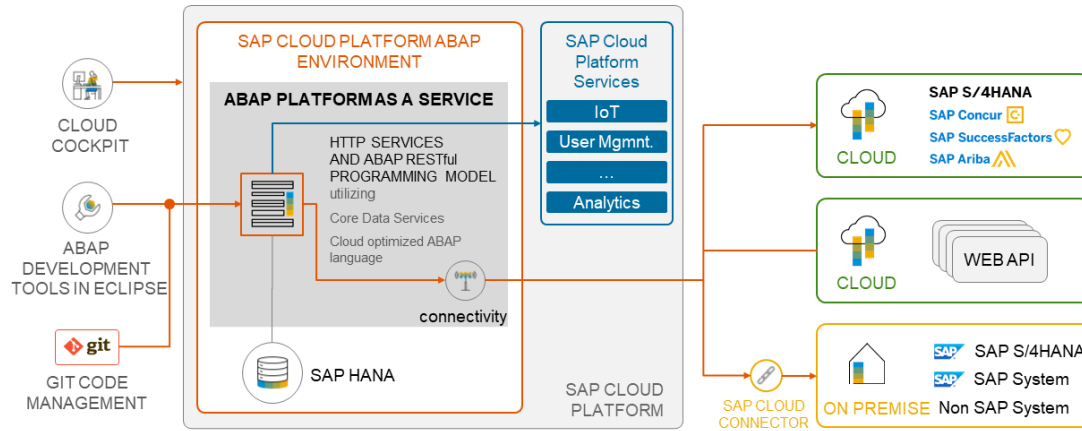
1. **Cloud-ready Enterprise**: from on-prem to “[RISE with SAP](#)”, cloud revenue continues to grow, fully on track by 2023 and onward.
2. **Intelligent Enterprise**: AI, big data, analytics, quantum computing, cyber security, business network.
3. **Sustainable Enterprise**: tracking carbon footprint in every industry sector, future ready, especially with respect to the European taxonomy.
4. **Unified Enterprise**: provide an interface for smooth customizability; important for our vast ecosystem; e.g., “Steampunk” project in ABAP Platform.

3.1 What is ABAP?

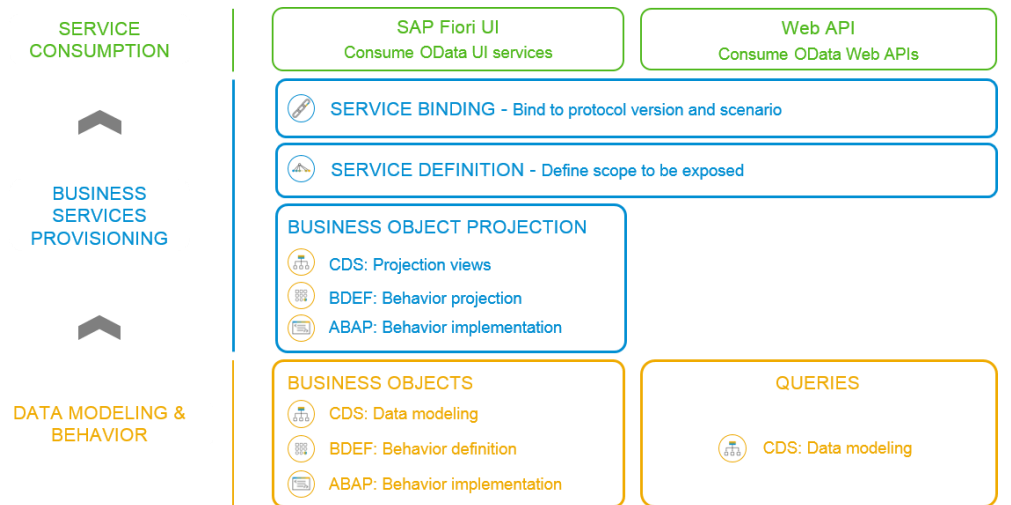


1. **S/4HANA Cloud** is the flagship ERP software by SAP, which is predominantly developed in ABAP.
2. **Advanced Business Application Programming (ABAP)** is a high-level object-oriented programming language with great emphasis on complex data modeling and processing.
3. **ABAP** provides flexibility in modeling & processing data, even more so with the **Core Data Service (CDS)**, thanks to HANA's in-memory database technology.
4. **CDS** offers rich semantics and plethora of advanced features for complex data manipulation on the fly.

3.2 What is ABAP?

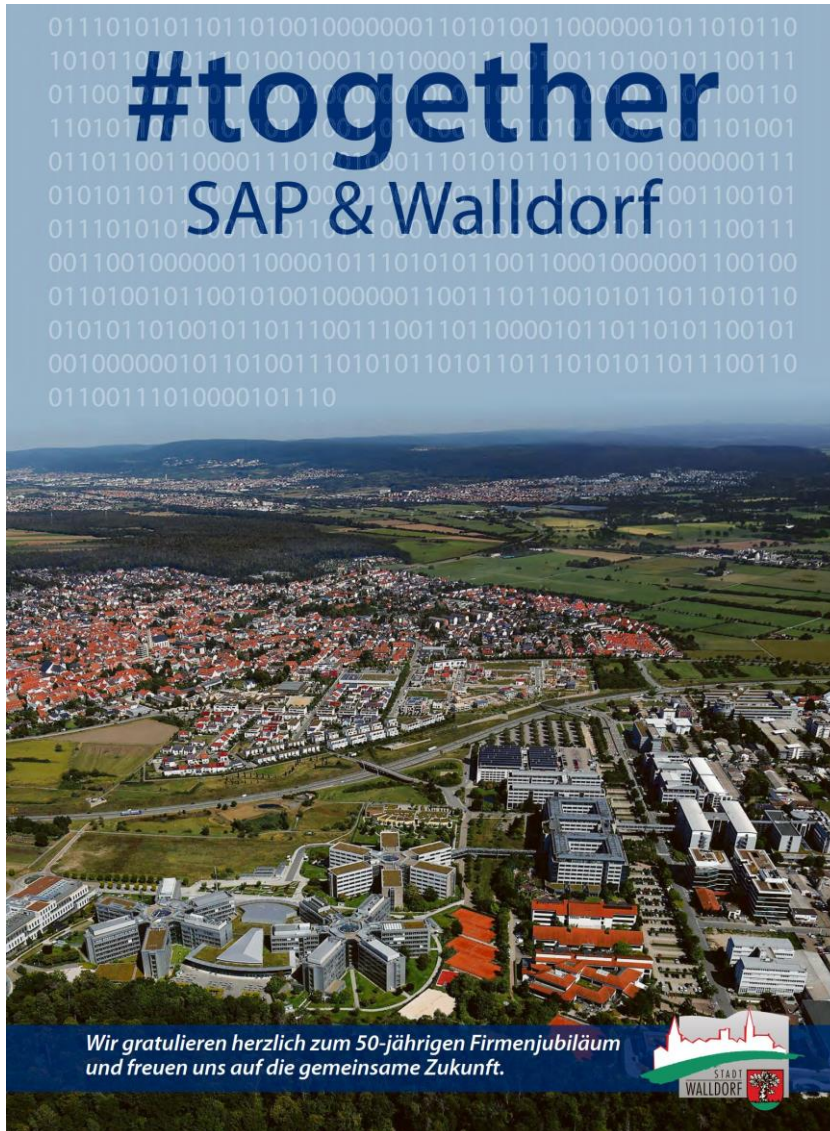


1. **BTP, ABAP environment** is the main platform on which S/4HANA is developed, both cloud and on-premise.
2. **Main stakeholders** are fellow application developers as well as various other ABAP developers at partner companies.
3. **RESTful Application Programming (RAP) Model** is the modern framework for developing end-to-end business process applications in ABAP.
4. **ABAP Platform** (~720 developers) is responsible for supporting & developing tools for the RAP framework: Kernel, SADL, GW, Integration, ADT, Dictionary, Transport and many other components.



4.1.1 Why SAP and ABAP?

Relevance to physicists



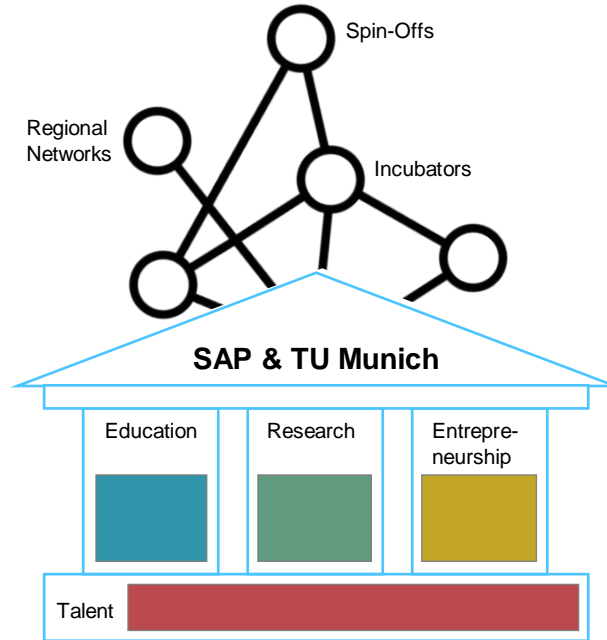
Source: Rhein-Neckar-Zeitung (April 2022)

1. **Academic** atmosphere: many colleagues with science & tech. background, open discussions, numerous cross check & testing tools to ensure stability of the system, intensive presentations and documentations take place every other week within Scrum review sessions.
2. **Inclusive** atmosphere: colleagues from many different cultural & academic backgrounds, people- and family-first culture, socially embracing overall.
3. **Learning** atmosphere: tons of (technical) information exchanged via talks & presentations, various technical courses organized and offered by SAP, German courses; all in all, learning is strongly encouraged.
4. **Collaborative** atmosphere: colleagues over competitors, close collaborations with neighboring teams, buddies for on-boarding, working in Scrum, always ready to help; ABAP Platform especially is super collaborative 😊

4.1.2 Why SAP and ABAP?

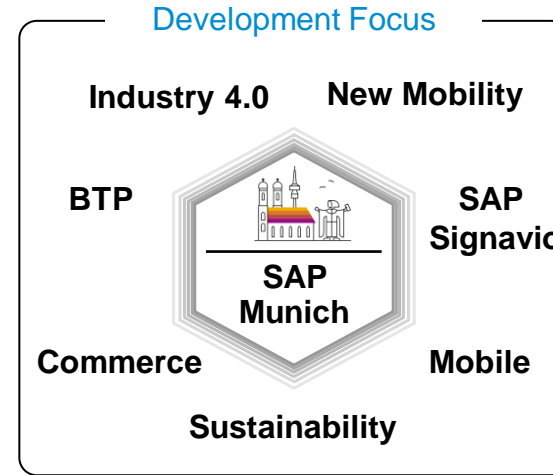
Relevance to Munich

European hub for data and information technologies



- ▶ The **Industry-University Collaboration Hub** at SAP Labs Munich supports activities across multiple areas
- ▶ A broad set of projects and increased engagement has been established

Link: [Press release](#)



Industry University Collaboration Hub

Worldwide unique partnership between science and industry

Areas of Focus:

- Applied Research
- Knowledge Exchange
- Talent
- Co-Innovation



4.1.3 Why SAP and ABAP?

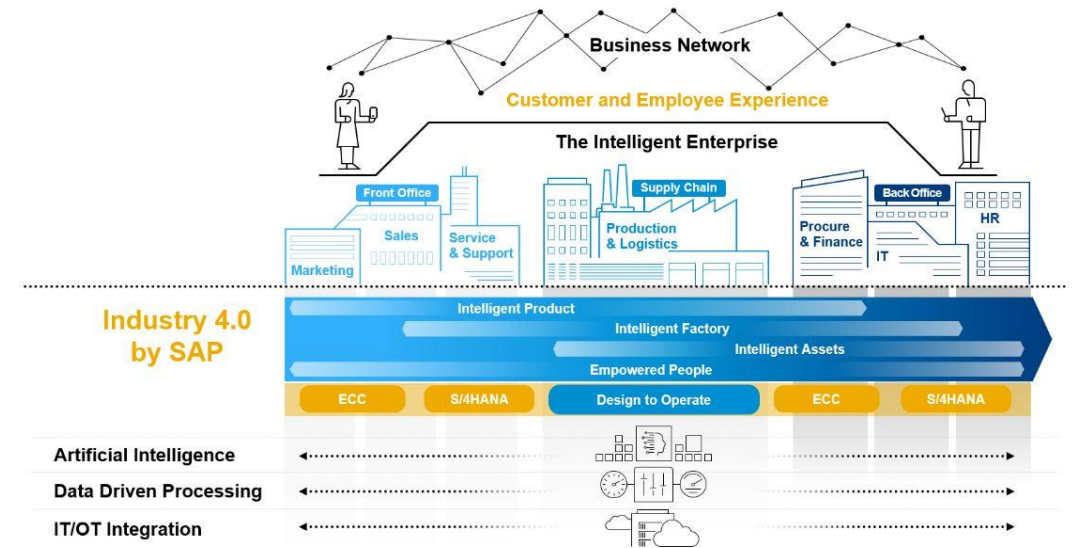


Source: Rhein-Neckar-Zeitung (April 2022)

International network: Europe, North/South America, India & Asia Pacific, Africa. SAP Labs are in many different locations of the world, working on various R&D projects.

Number of employees @SAP: ~30.000 in Germany (>10.000 at Walldorf campus), ~30.000 in North America, and >109.000 in total as of now.

- Public sector:** digitalization within Germany and Europe, medical branch, R&D, ESG standard for climate change, even contributed to DFB for WM 2014.
- Private sector:** information & technology, consumer, infrastructure, finance, trading, manufacturing, logistics, services, etc. More than 400.000 customers in 180 different countries.



4.2 How can I apply?

Career opportunities @SAP

SAP

Jobs at SAP

We build breakthroughs, together.

[Join our Talent Community](#)

SAP supports hybrid flexible working models for all positions unless onsite requirements are stated in the job posting.

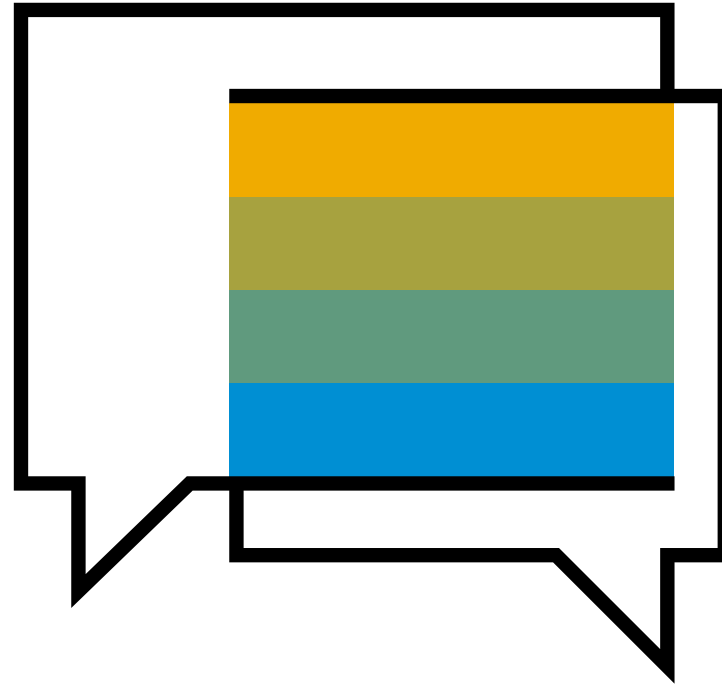
Search by keyword Search by location

Show more options

Students and graduates **Development and technology** Sales Consulting services and support Marketing and communications Corporate operations Human resources

- 1. Website:** check out the link [here](#), click on Development & technology, use Core or S/4HANA as a keyword, and Walldorf or Munich for location. Various positions available not only for ABAP but also for C/C++, Java and Python.
- 2. Interviews:** first round with management team, a manager and a product owner, and second round, if necessary, within technical contexts (i.e., code interview); there could be more than two rounds as well.
- 3. Decision:** usually comes promptly. Salary discussions followed upon acceptance of the offer then sign the contract. Everything is done online & per post these days.
- 4. On-boarding:** “buddies” are assigned, first weeks are dedicated to getting used to the teams, development ecosystem and infrastructure.

5. Questions?



Thank you for your attention!

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May 12, 2022