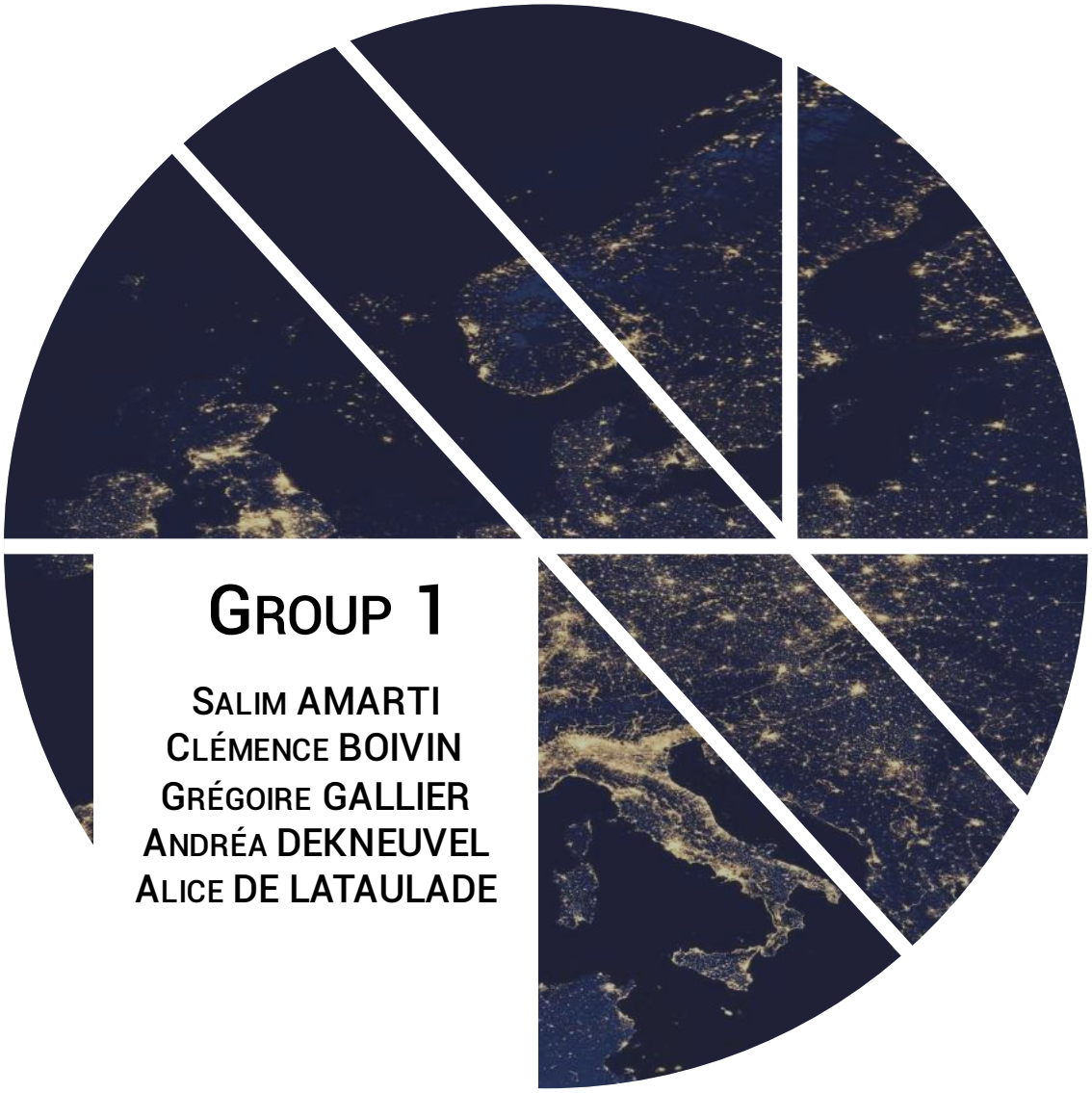
SAP PROJECT

BERGMANNKOHLER CASE



GROUP 1

SALIM AMARTI
CLÉMENCE BOIVIN
GRÉGOIRE GALLIER
ANDRÉA DEKNEUVEL
ALICE DE LATAULADE

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Our Consulting Team

SALIM AMARTI

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ALICE DE LATAULADE

INTRODUCTION

In a context of a raising public and political awareness regarding nuclear power, BERGMANNKOHLER has to adapt its strategy as an energy supplier in the next 5 years. The company must meet with Germany's objectives for energetic transition, as it claims to be out of the nuclear by 2022 and to produce 80% of its electricity from renewable energies. This environmental policy is embedded by the Energiwende, the movement for energy transition in Germany which is advocated by the Energy City Conference, which is to be held in Stuttgart from April 26 to April 28th.

In order to be able to meet with these objectives while retaining its competitiveness compared to other European countries, but also emerging countries like China, Bergman Kohler has to transform its model to a data driven business, thus fostering innovation, good management of the company, and faster decision making, while retaining competitivity.
Moreover some companies have already take the lead of the grid technology in Europe. For example Enel in Italia is the pioneer in term of implementation of grid technology and Engie has already launch its grid transformation.

We have identified 3 main challenges for the next few years to overcome for BERGEMANNKHOLER in order to take the lead of the energy transformation and follow the transition of Germany.
Our team of experts Big Data consultants at SAP is here to present its solutions to BERGEMANNKHOLER in order to implement Big Data at the core of the company's business.

COMPANY OVERVIEW

COMPANY REVENUE
€132 billion in 2012

ELECTRIC AND GAS UTILITIES
- Natural gas
- Hard coal
- Renewables
- Nuclear

LOCATION
Head office in Berlin, Germany
11 regional units
Europe, United States, Russia

BERGMANNKOHLER

VISION
Gradually expand its activities worldwide
Use more and more clean energy
Manage the vast amount of data in the entire organization

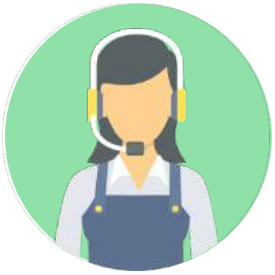
NUMBER OF EMPLOYEES
More than 72 000

BUSINESS VALUE PROPOSITION

BergmannKohler has to face different challenges for the next few years in order to respond to the energy transition in Germany with the objective of evolving its business model.

Three major challenges need to lead the global strategy of the company to determine the health and well-being of the firm in the long run.

3 MAIN OBJECTIVES



IMPROVE CUSTOMER MANAGEMENT

- Inform, anticipate, guide consumer
- Understand in real time consumption and needs

OPTIMIZE OPERATIONS

- Enhance internal transformations
- Increase the profit of activities
- Be competitive

ADAPT SUPPLY AND DEMAND THROUGH BIG DATA

- Manage massive data
- Make predictions
- Data driven business

BIG DATA ANALYTICS MATURITY MODELS

According to the SAP Levels of performance across 6 key best practice domains, we identify the level maturity of the Bergmannkohler's model in terms of Big Data analytics.

SAP BIG DATA ANALYTICS MATURITY MODEL

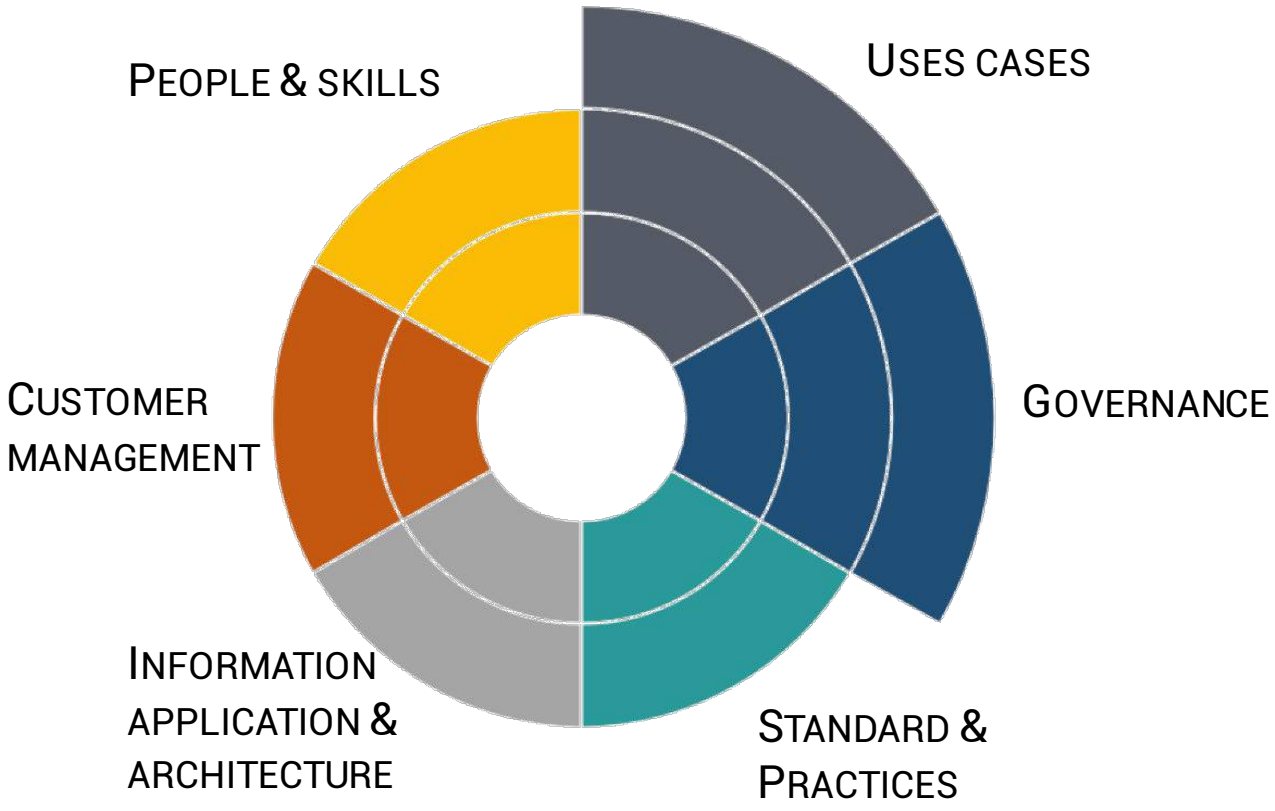
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
People & skills	No specific skills, Executive Audience, Personal Service	Some limited skills to bring data decision making	BI Roles, Stakeholders and regular information skills	Big Data Culture, Information integration in all practices, protecting info assets
Uses Cases	No Big Data business programs, seen as technology	Line of Business example use cases; coping.	Understanding and managing Big Data insights	Big Data Business Model Innovation
Governance	No Big Data Governance	Business Driven Big Data governance	Competency Center & Big Data governance	Enterprise-wide Big Data Governance with Business Leadership.
Standards & Practices	Do not exist or are not uniform	Evolving effort to formalize	Exist but are not uniform	Uniform, followed and audited
Information & Application Architecture	No Big Data in any process	Some isolated Big Data Applications	Big Data projects across business	Big Data drives Business Design
Customer Management	No use of customer management in the model	Gather some data about customers, monitor customer data, Regional units try to capture customer data but nothing is centralized	Develop data driven customer management across all units, transformation of customer management around data.	Customer management is deeply rooted in the Big Data architecture of the company, implementing a Data driven customer management using data to gather client information, analyse it and answer it through big data and machine learning

BERGAMNNKOHLER MATURITY LEVEL

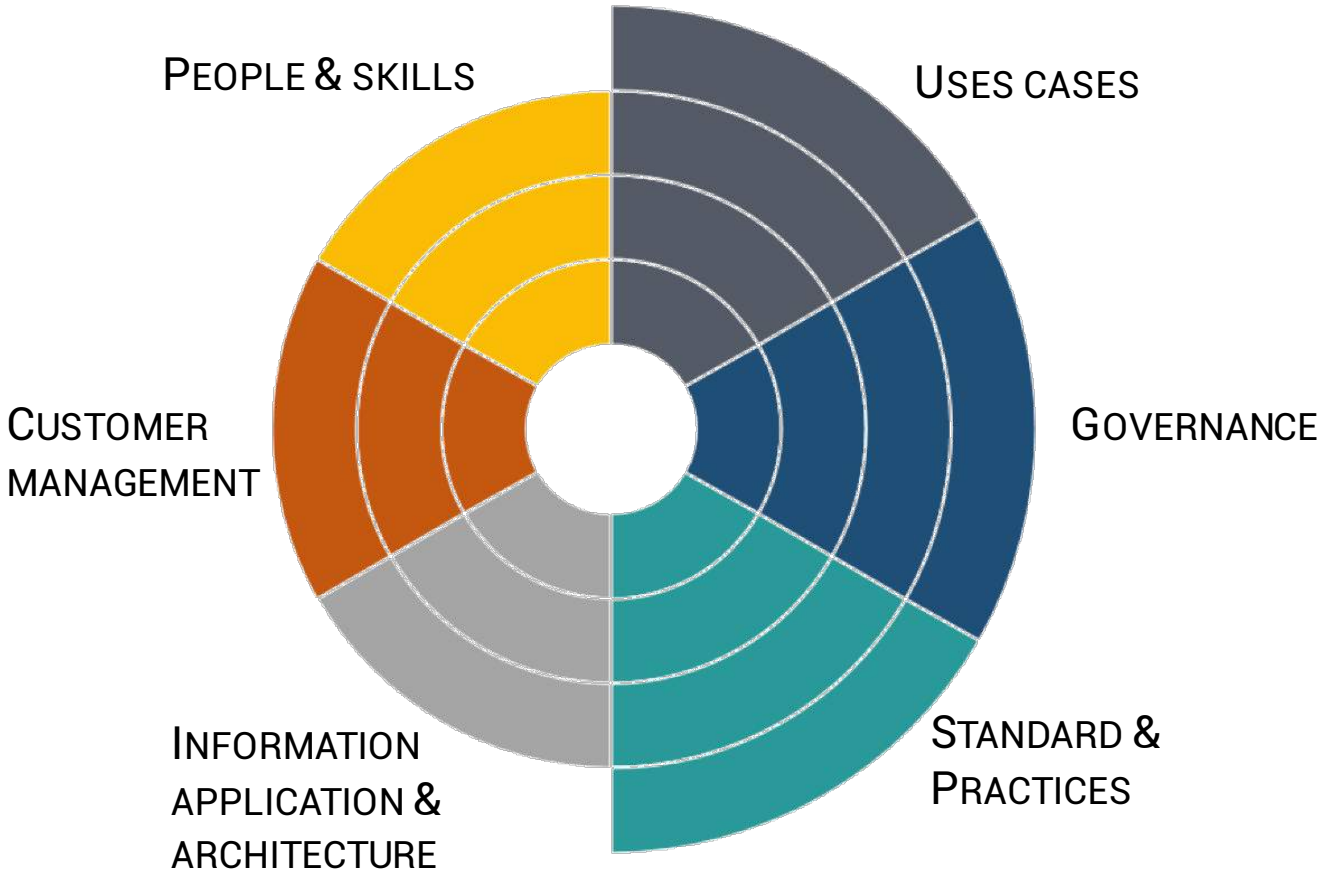
Actual position
Reached position

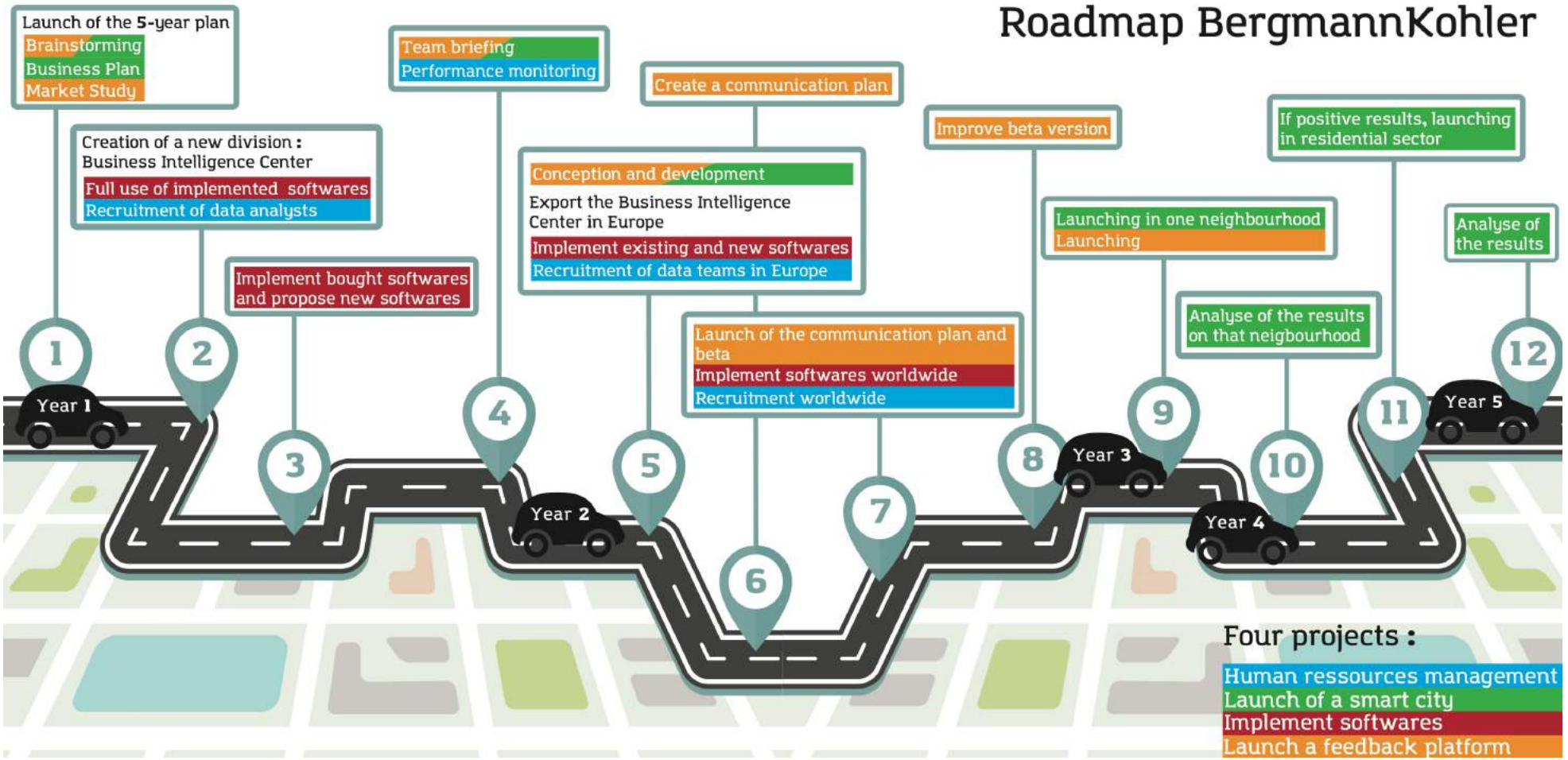
	1	LEVEL 2	LEVEL 3	LEVEL 4
People and skills		▹ People already manage temperature sensor for LNG operations ▹ IT teams are present in some regional units but not in global units ▹ There is a global unit about new build projects and innovation but not data analyst or specialists in data.	▹**Hire** data analyst ▹**Organizing training** for people to develop their skills in data analysis ▹**Dedicated department** to data analysis, develop BI roles ▹**New organization** of people work to have regular information skills ▹Main goals: extract & use the **full potential** of the data	
Uses cases		▹ They have SAP products (SAP Business Suite, SAP HANA) but not implemented yet ▹ They have also a license for Predictive Analytics but not sure how to put it into play	▹They use data with temperature sensor (to track weather conditions) ▹SAP energy portfolio management, metering service parts planning and logistics and asset operations and maintenance ▹Pilot project conducted to testing our smart meters and smart grid technology	▹**Increase readings** from smart meters to have better data insights with SAP analytics ▹**Apply analytics** across the entire organization ▹**Became a big data business model innovation**
Governance		▹ No global governance in terms of data but each regional units has its own IT department ▹ Governance initiative about new build projects and innovations to have a Business driven Big data governance		▹ **Be an enterprise-wide big data governance** with business leadership ▹ **Be a new business model** addressed by big data ▹ **Expanding** the business model in other country such as South America
Standard & practices		▹ Some practices are not deployed in the entire organization; regional units try to formalize their practices with SAP products.	▹ Some regional units are equipped with SAP System but Each region has their own set of servers with their data from their local power generation distribution and marketing initiative ▹ There are not uniforms practices	▹**Deploy Big data practices** across the entire organisation ▹Understanding the success of smart grid technology and manage the vast amounts of data. ▹**Implement standard process** to facilitate the application across the organization ▹**Have uniform standard and practices.** ▹**Realize regular Audit of the activities and process**
Information Application & Architecture		▹ Use of information and applications from data with the temperature sensor ▹ Use of monitoring equipment on isolated projects	▹**Develop** big data projects across business ▹**Have a new architecture** of the company to optimize the transformation of the business model around Data. ▹Apply on all projects big data applications	
Customer management		▹ Current situation: Each regional group is in charge of customer management, marketing and Distribution ▹ There is no efficient company-wide customer management Big Data is not at use in customer relation	Use Data at a companywide level to adapt the strategy at a higher level Customer Data is analysed instantly and helps developing a basic strategy Think about new opportunities to answer client needs instantly with machine learning	

Issues



Expectations and projections




Roadmap BergmannKohler
Launch of the 5-year plan
Brainstorming
Business Plan
Market Study
Creation of a new division :
Business Intelligence Center
Full use of implemented softwares
Recruitment of data analysts
Implement bought softwares and propose new softwares
Team briefing
Performance monitoring
Conception and development
Export the Business Intelligence Center in Europe
Implement existing and new softwares
Recruitment of data teams in Europe
Create a communication plan
Launch of the communication plan and beta
Implement softwares worldwide
Recruitment worldwide
Improve beta version
Launching in one neighbourhood
Launching
Analyse of the results on that neigbourhood
If positive results, launching in residential sector
Analyse of the results
1
2
3
4
5
6
7
8
9
10
11
12
Year 1
Year 2
Year 3
Year 4
Year 5
Four projects :
Human ressources management
Launch of a smart city
Implement softwares
Launch a feedback platform

GANTT

		Nom	Durée	Début	Fin
1		Launch of the 5-years plan	0 jours?	01/01/18 0...	01/01/18...
2		Brainstorming about the project A "Smart city"	196 jours?	01/01/18 0...	01/10/18...
3		Brainstorming about the project B "Feedback Platform"	196 jours?	01/01/18 0...	01/10/18...
4		Conduct a market study in order to launch the Project B	196 jours?	01/01/18 0...	01/10/18...
5		Launch of a new division: BI center	1 jour?	01/04/18 0...	02/04/18...
6		Hire 20 data analysts	1 241 jo...	02/04/18 0...	02/01/23...
7		Train the smart grid research team	197 jours?	01/04/18 0...	01/01/19...
8		Create BI department	197 jours?	01/04/18 0...	01/01/19...
9		Make software training available	197 jours?	01/04/18 0...	01/01/19...
10		Gradually learn to use fully the softwares already bought	1 241 jo...	02/04/18 0...	02/01/23...
11		Implement softwares step by step	1 jour?	01/08/18 0...	01/08/18...
12		Gradually use softwares bought but not used	1 154 jo...	01/08/18 0...	02/01/23...
13		Propose new softwares (data vizualisation...)	1 154 jo...	01/08/18 0...	02/01/23...
14		Brief teams about Projects A & B	1 jour?	01/10/18 0...	01/10/18...
15		Brief teams about Project A	67 jours?	02/10/18 0...	02/01/19...
16		Brief teams about Project B	67 jours?	02/10/18 0...	02/01/19...
17		Export the BI Center in Europe	1 jour?	01/01/19 0...	01/01/19...
18		Dispatch the new data analysts in Europe	1 044 jo...	01/01/19 0...	30/12/22...
19		Make software training available in regional units	1 044 jo...	02/01/19 0...	02/01/23...
20		Gradually learn to use fully the softwares already bought	1 044 jo...	02/01/19 0...	02/01/23...
21		Gradually use softwares bought but not used	1 044 jo...	02/01/19 0...	02/01/23...
22		Gradually buy and use new softwares (data vizualisation)	1 044 jo...	02/01/19 0...	02/01/23...
23		Concept and development of the Feedback platform	65 jours?	03/01/19 0...	03/04/19...
24		Thinking about the real development of Smart city	262 jours?	03/01/19 0...	03/01/20...
25		Create a communication plan for the Project B	66 jours?	01/04/19 0...	01/07/19...
26		Export the BI Center worldwide	1 jour?	01/07/19 0...	01/07/19...
27		Dispatch the new data analysts in Europe	915 jours?	01/07/19 0...	30/12/22...
28		Make software training available all over the world	915 jours?	01/07/19 0...	30/12/22...
29		Gradually learn to use fully the softwares already bought	915 jours?	01/07/19 0...	30/12/22...
30		Gradually use softwares bought but not used	915 jours?	01/07/19 0...	30/12/22...
31		Gradually buy and use new softwares (data vizualisation)	915 jours?	01/07/19 0...	30/12/22...
32		Focus on the 2 projects A & B	1 jour?	01/07/19 0...	01/07/19...
33		Launching of the communication campaign for the feed..	133 jours?	01/07/19 0...	01/01/20...
34		Launching of the beta "Feedback platform"	67 jours?	01/07/19 0...	01/10/19...
35		Improving beta version	66 jours?	02/10/19 0...	01/01/20...
36		Official launching of the feedback platform	783 jours?	02/01/20 0...	02/01/23...
37		Launch of smartcity in one neighbourhood (industrial z..	783 jours?	02/01/20 0...	02/01/23...
38		Analyze of the results of this neighbourhood	521 jours?	01/01/21 0...	30/12/22...
39		If positive results, launching in a second neighbourhoo..	392 jours?	01/07/21 0...	30/12/22...
40		Analyze of the results of this neighbourhood	260 jours?	03/01/22 0...	30/12/22...

TIMELINE

Human Resources Management

Foundation
Launch of a new « BI center » :
Recruitment of 20 data analysts
Briefing of the teams
Training on softwares
Attribution of the projects

Year 1 2018

Expand Coverage
Export the « BI center » in Europe on the same model
Performance monitoring of the staff

Year 2 2019

Maturity of the project
Export the « BI center » in the rest of the world
Recruitment of 20 data analysts with the launch of smart cities project

Year 3 2020

Full Integration
The worldwide company have a new architecture with a BI center un order to optimize the transformation of the business model around data

Year 4 2021

Advanced Analysis
Continuous assessment and formation

Year 5 2022

Smart cities

Foundation
Launch of the market study for the smart cities
Attribution of the project to a division

Year 1 2018

Expand Coverage
Conception and development of a smart city for residential and industrial areas

Year 2 2019

Maturity of the project
Launch of the smart city project for one industrial neighborhood

Year 3 2020

Full Integration
Analysis of the results
If they are positive, launch of the smart city project in one residential neighborhood

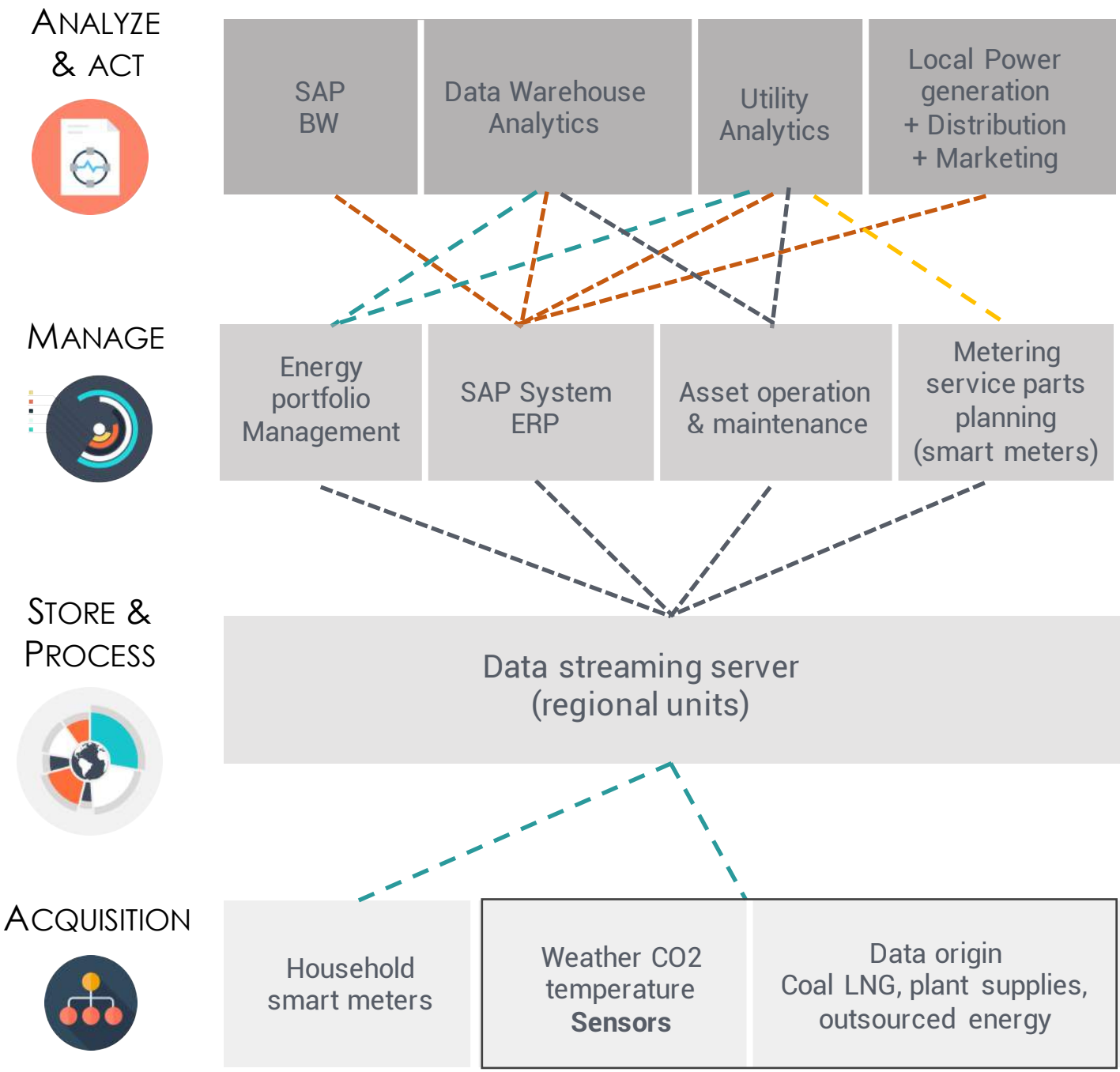
Year 4 2021

Advanced Analysis
Continual analysis of the results and improvement

Year 5 2022

IT ARCHITECTURE

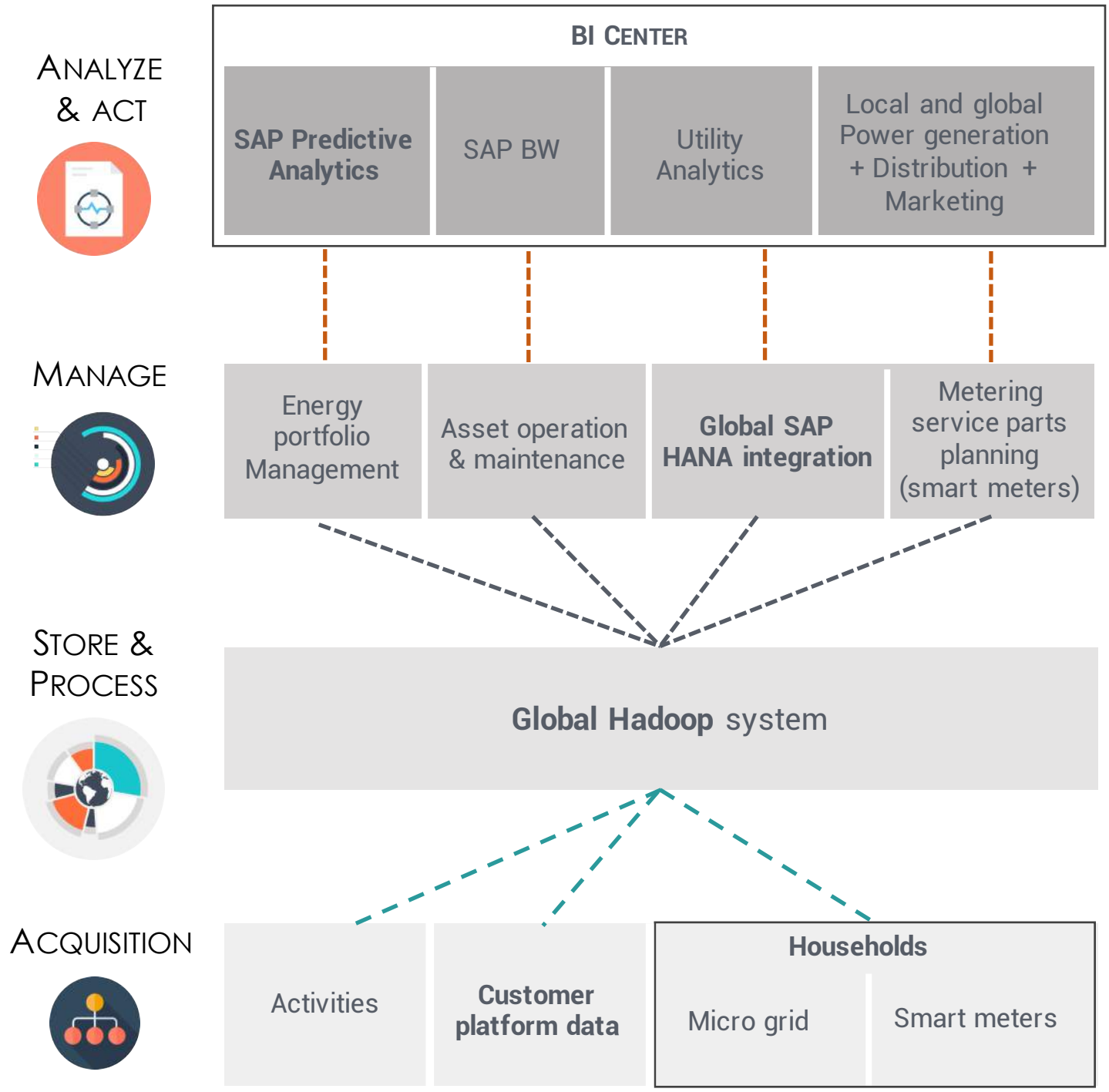
Actual IT architecture



IT ARCHITECTURE

Predictive 2020

The graph illustrating the evolution of the IT architecture after 3 years. It's an intermediate step before the final new architecture in 2023. In 2020 There is a new source of data from the customer platform data then this data are stored in Hadoop servers. This new tool replace the old way to store and processing. For the management of the data in 2020 SAP HANA is operational and integrated across the entire organization. SAP analytics is also now implemented in the new unit call Business intelligence center with all other softwares.



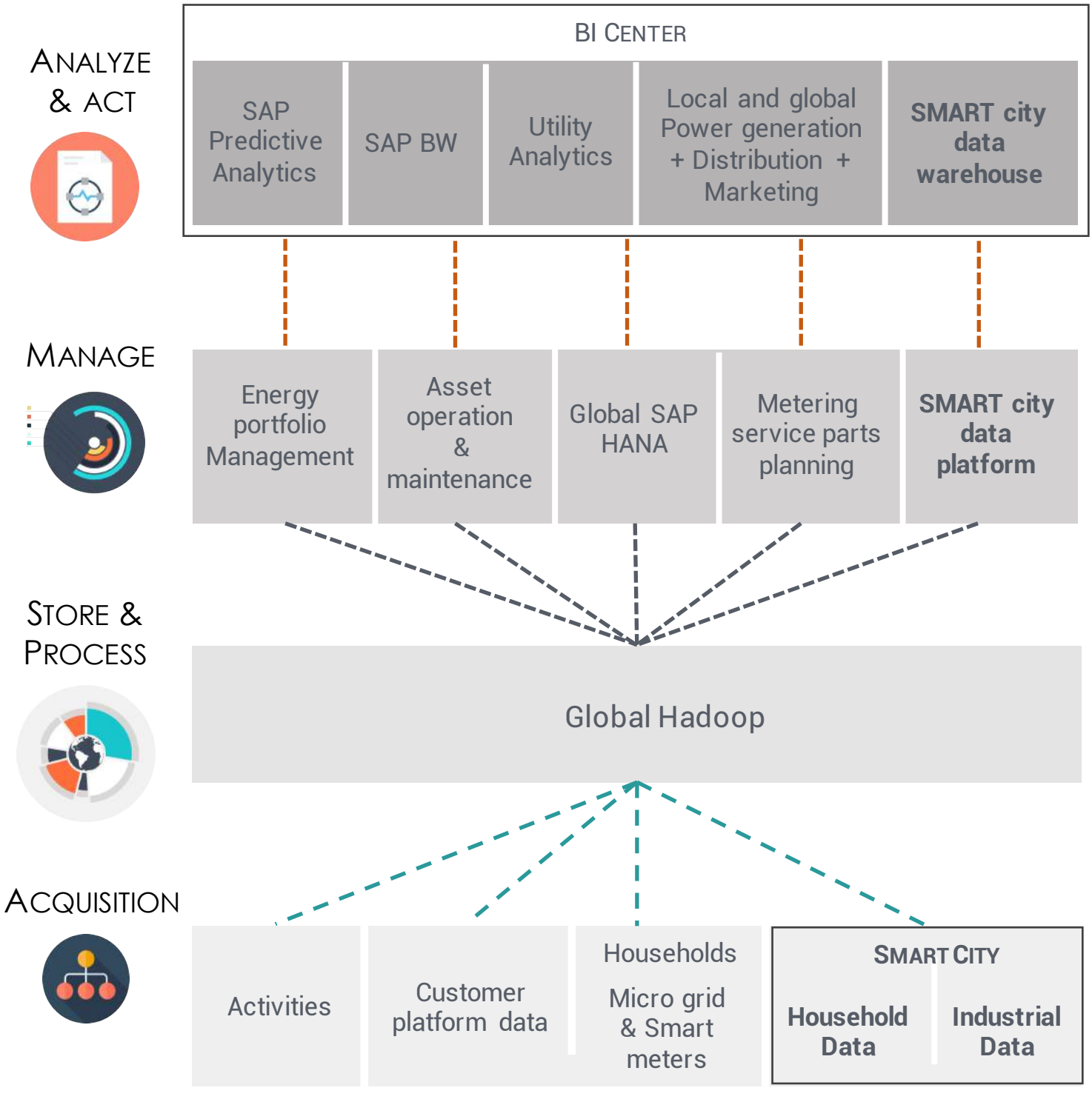
IT ARCHITECTURE

Predictive 2023

The graph illustrating the new IT Architecture expected in 2023 shows that other divisions appear at different levels. These new divisions are intended to manage the vast amount of data which only come from the smart city.

Indeed, thanks to the two pilot projects in two neighbourhoods (industrial and residential areas), a platform will be created to collect the data from households and employees. This platform enables to understand in real time their consumptions and to give them some advices if they need in order to save money and energy.

We dedicate a team to analyze all the data of the smart city, that's why we create a new division in the BI center.



CONCLUSION

BergmannKohler has to face different challenges for the next few years in order to respond to the energy transition in Germany with the objective of evolving its business model. .

To conclude, the energy transition of Bergmannkholer needs to be done rapidly. Some companies have already changed their business model and use more data to transform their activities and be engage in the energy transition. To be able to respond to the competition which grows quickly and be in adequation with the political line of Germany, Bergmannkholer has to begin its transformation quickly. That's why in our proposition, we propose different projects to :

- Optimize the organisation
- Adapt supply and demand through Big Data
- Improve Customer management

This project is going to lead the company in the next five years. Its requires an important investment but It's worth the money. Indeed we identified major KPI's to assure you the rentability of the project.

The return on investment is very high and the revenue will increase rapidly. Becoming a data driven business allows the company to be faster in the decision making, increase the agent productivity, increase the customer satisfaction and management.

Moreover if the company wants to have a strong place in the worldwide competition in energy, it has to develop their skills in data and changes its business model in data driven business. We believe that is the best way to have a leadership in the next few years and we have all the tools to advise the company in this major transition. We are confident that the value gain with the different projects will be much higher than the cost.