

The K+S logo is positioned in the top right corner of the image. It consists of the letters 'K+S' in a bold, white, sans-serif font, set against a dark blue, triangular background that points towards the center of the image.

# Compendium

March 2022



# Content



1. **K+S Group**
2. **Sustainability**
3. **Customer Segment Agriculture**
4. **Customer Segment Industry+**
5. **Production**
6. **Financial Data**
7. **Investor Relations**

A large industrial facility, likely a potash plant, with several tall smokestacks and complex piping. The building is white with blue accents and features the K+S logo and 'K+S Potash Canada' text. The sky is clear blue, and there is a grassy field in the foreground.

**K+S**

# 1. K+S Group

# What happened 2021?



## Strong increase in potash prices

- MOP gran. BR more than tripled from 250\$/t to 800 \$/t in 2021
- MOP gran. Europe rose from 230 €/t to 600 €/t
- EBITDA and FCF outlook increased 3 times

## New strategy announced

- Potash and magnesium is core
- ROCE > WACC over cycle of 5 years
- EBITDA margin of > 20% over cycle
- Positive FCF from 2023 even in the event of low potash prices
- Bethune and Zielitz with cost leadership focus, Werra and Neuhofer speciality sites with optimized portfolio



## Sale of the Americas operating unit

- Closing completed on April 30
- Net proceeds ~ €2.6 billion
- Book gain ~ €742 million
- Financial debt reduced significantly by ~ €2.1 billion

## Closing of REKS joint venture

- Closing completed on Dec. 22
- one-off gain (+ ~ €200m EBITDA)
- cash inflow (+ ~ €90m before taxes)



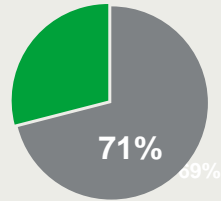
# K+S at a glance

## Customer Segments

### Agriculture



Potassium chloride (MOP) and fertilizer specialties

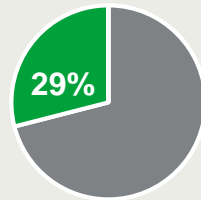


Revenues  
€ 2,272.1 mln

### Industry+ consisting of Industry, Consumer and Communities



**In the Industry:** Chemical, Pharma, Food, Animal nutrition, Oil and gas, Water softening, Other industrial products



Revenues  
€ 941 mln

## K+S Group financials FY/2021 (continuing operations)

**Revenues**  
€3,213.1 million

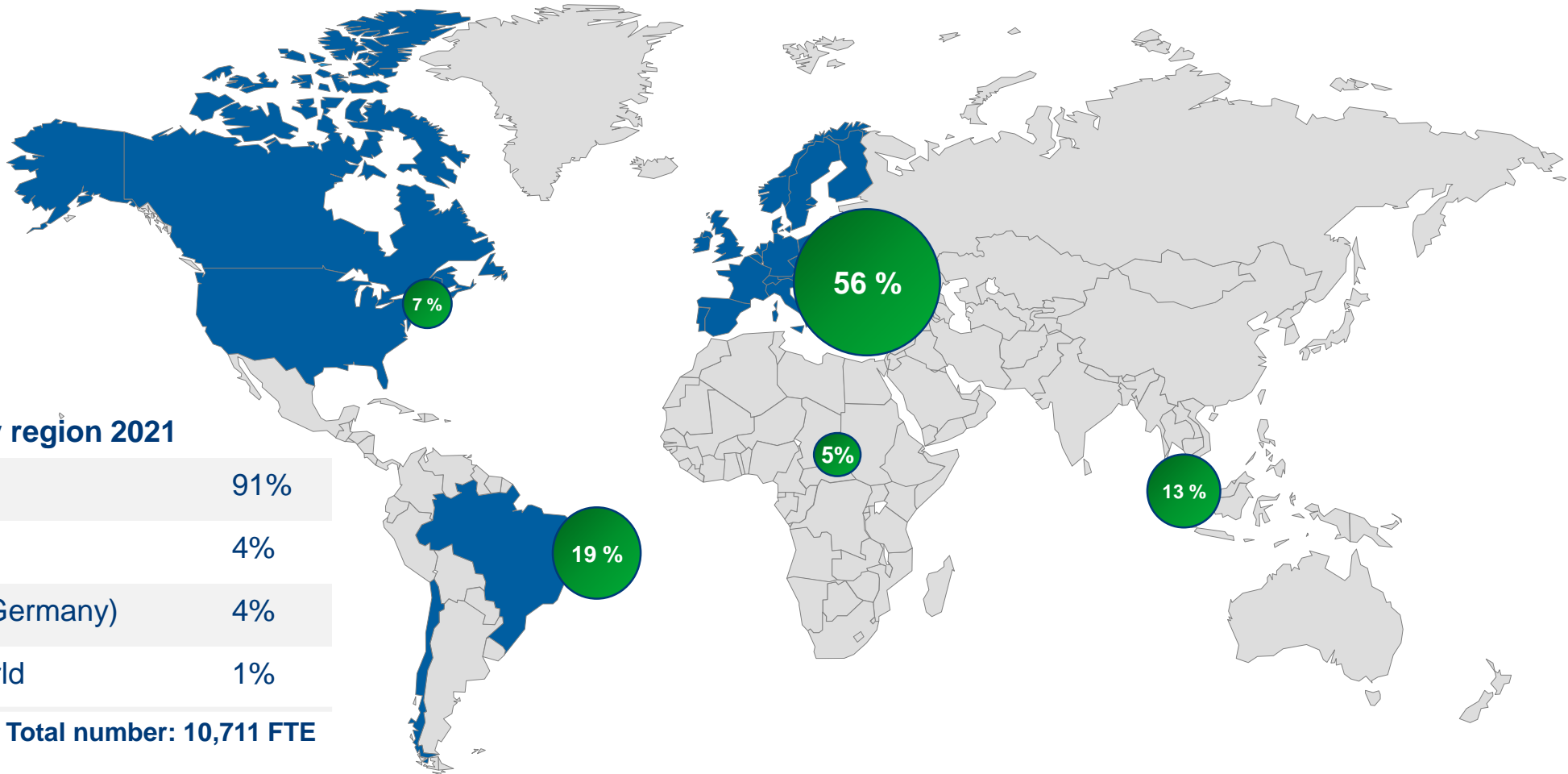
**EBITDA**  
€969.1 million

**EBITDA-Margin**  
30.2%

**Free cash flow (adjusted)**  
92.7 million

# Global Presence

Revenues of the continuing operations by regions in 2021



## Employees by region 2021

Germany	91%
North America	4%
Europe (excl. Germany)	4%
Rest of the world	1%

Total number: 10,711 FTE

# Adding value along our entire supply chain

## Exploration



Our potash and salt deposits came into being millions of years ago. They are either our property or we have corresponding rights or approvals that allow the extraction or solution mining of the raw material reserves.

## Mining



We extract raw materials in conventional mining below ground as well as through solution mining. We also use the power of the sun and extract salt by evaporating sea water or saline water.

## Production



The refining of raw materials is one of our core competencies. Above ground, the crude salt is processed in complex, multi-phase, mechanical or physical processes, with the natural properties of the mineral remaining unchanged.

## Logistics



The long-term securing of freight capacity is of strategic importance to us. A large part of our international transportation volume is forwarded by service providers with which we maintain long-standing partnerships.

## Sales/ Marketing



The long-term securing of freight capacity is of strategic importance to us. A large part of our international transportation volume is forwarded by service providers with which we maintain long-standing partnerships.

## Application



Our customers apply our products, use our raw materials in their processes or process them in their products. We make extensive product information available and advise our customers on the application of our products.

# Board of Executive Directors



**Dr. Burkhard Lohr**  
CEO



**Holger Riemensperger**  
COO

The Supervisory Board has mutually agreed with Mr. Boeckers to terminate his service agreement at the end of February this year. Dr. Burkhard Lohr, Chairman of the Board of Executive Directors, will also assume the function of Chief Financial Officer on a transitional basis. Together with Holger Riemensperger, Chief Operating Officer, who will simultaneously take over the duties of Labor Director from Dr. Lohr, he will continue to constitute the Board of Executive Directors of the Company.

## **Dr. Christian H. Meyer appointed new Chief Financial Officer**

Furthermore, the Supervisory Board of K+S has appointed Dr. Christian H. Meyer (50) as the new Chief Financial Officer. He will take over the management and further development of the finance area at K+S in spring 2023.



# Signing achieved for complete OU Americas sale



## Key data of the signed agreement

**Buyer:**

Stone Canyon Industries Holdings LLC, Mark Demetree and affiliates

**Gross proceeds:**

USD 3.2 billion

**EV/EBITDA:**

12,5x 2019 EBITDA of USD 257 million

**Closing:**

April 30, 2021

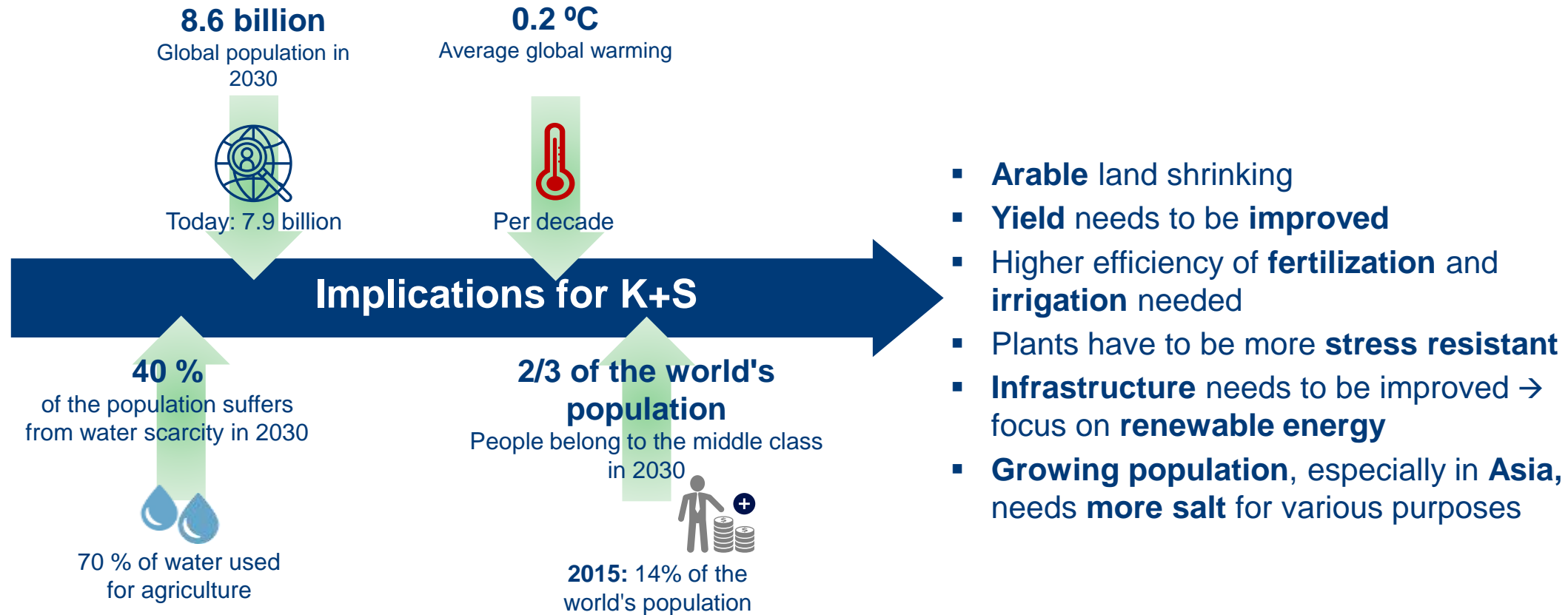
**Preliminary net proceeds:**

€2.6 bn after tax

**Preliminary gain on disposal:**

€742 million

# Important megatrends and their implications




**Sources:** United Nations, 2017; World Population Clock of the Deutschen Stiftung Weltbevölkerung (dated 15.12.2021); „Global temperature change“ from James Hansen et al. (September 25, 2006); World Water Report 2021 of the UNESCO; James Davies, Rodrigo Lluberas and Anthony Shorrocks, Credit Suisse Global Wealth Databook 2015

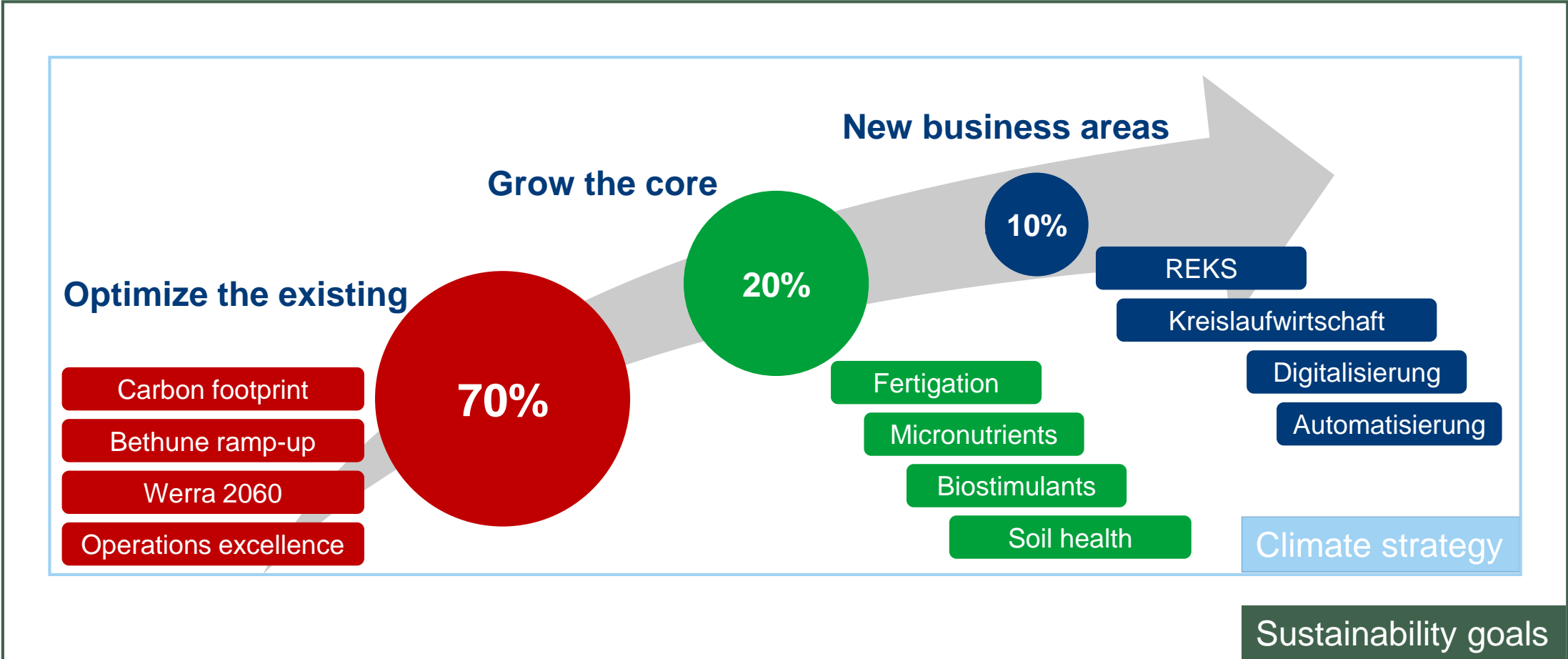
# Strategic financial objectives – Economies in cycles



- Positive free cash flow from 2023 even with a low potash price and mild winters
- Earn cost of capital over a cycle of 5 years (WACC 2020: 9.4%)
- At the same time, an EBITDA margin of > 20 % is targeted over this cycle

 **The basis for these strategic financial objectives is a solid balance sheet / a solid leverage ratio.**

# Guiding principles of strategy and management focus



# Clear focus of our sites

70 %



## Bethune

- Long-term ramp-up to up to four million tonnes of capacity
- Improvement of cost position
- Increase in granulated products



## Zielitz

- Improvement of the cost position
- Optimization of maintenance
- Increase in energy efficiency
- Increase in KaliSel production capacity



## Werra

- Optimization of product mix and production volumes
- Optimization of maintenance
- Increase in energy efficiency
- Increase in granulation capacity for potassium sulfate



## Neuhof

- Improvement of the mineral content through AI
- Increase of the granulating capacity of kieserite

➔ EBITDA impact: around €50 million p.a. from 2023

# Optimize the existing

70 %



## Agriculture

- Increase of marketing in USA ex Bethune
- Increase of trading business in Middle East, China and India
- Improved leveraging of local sales network



## Industrie+

- Focus on potash product groups for industrial product sales
- Capacity expansion of high-purity salts
- Optimization of de-icing salt setup



## Supply Chain

- Warehouse and network optimization for European salt logistics
- Optimization of warehousing
- Optimization of infrastructure utilization

➔ **EBITDA impact: around €30 million p.a. from 2023**

# Grow the core

20 %

We enable farmers to achieve greater economic success



- **Expansion of the portfolio**
- Fertilization
- Micronutrients
- Biostimulants
- Concepts for soil health
- Further additions to the portfolio



## **Logistics access**

- Circular economy
- Last Mile Distribution



## **Digital sales**

- Agronomic services
- Digital sales channels (e.g. webshops)
- New digital business models
- Direct access to the farmer



# New business areas

10 %

Reuse of existing assets and development of new business areas



## Renewable and green energy

- Increasing use of renewable energies (wind, sun) at our locations
- Use of available space at our locations
- Research into the production and use of green hydrogen



## Carbon dioxide (CO<sub>2</sub>)

- CCS: underground storage (solid and gaseous)
- CCU: Use for the production of biomass or as a raw material for basic chemicals



## Waste management and circular economy

- Underground recycling, underground storage
- Extraction of valuable minerals from waste streams (e.g. magnesia)



## Reuse of our mines

- Research into alternative uses for agriculture or as a production area for biotechnology

Mines

Caverns

Piles

Land

Technical/structural  
infrastructure

Technological  
know-how

Agronomic know-  
how





A photograph of a tree trunk with a circular logo carved into the bark. The logo features the letters 'K+S' in a stylized font. The tree bark is light-colored with horizontal lenticels and some green moss. The background shows a forest with other trees and green foliage. A dark blue diagonal banner is in the top right corner.

**K+S**

## **2. Sustainability**

# K+S Sustainability Goals



We have set ourselves ambitious goals in these three areas of action:

## **Society & Employees, Environment & Resources and Business Ethics & Human Rights**

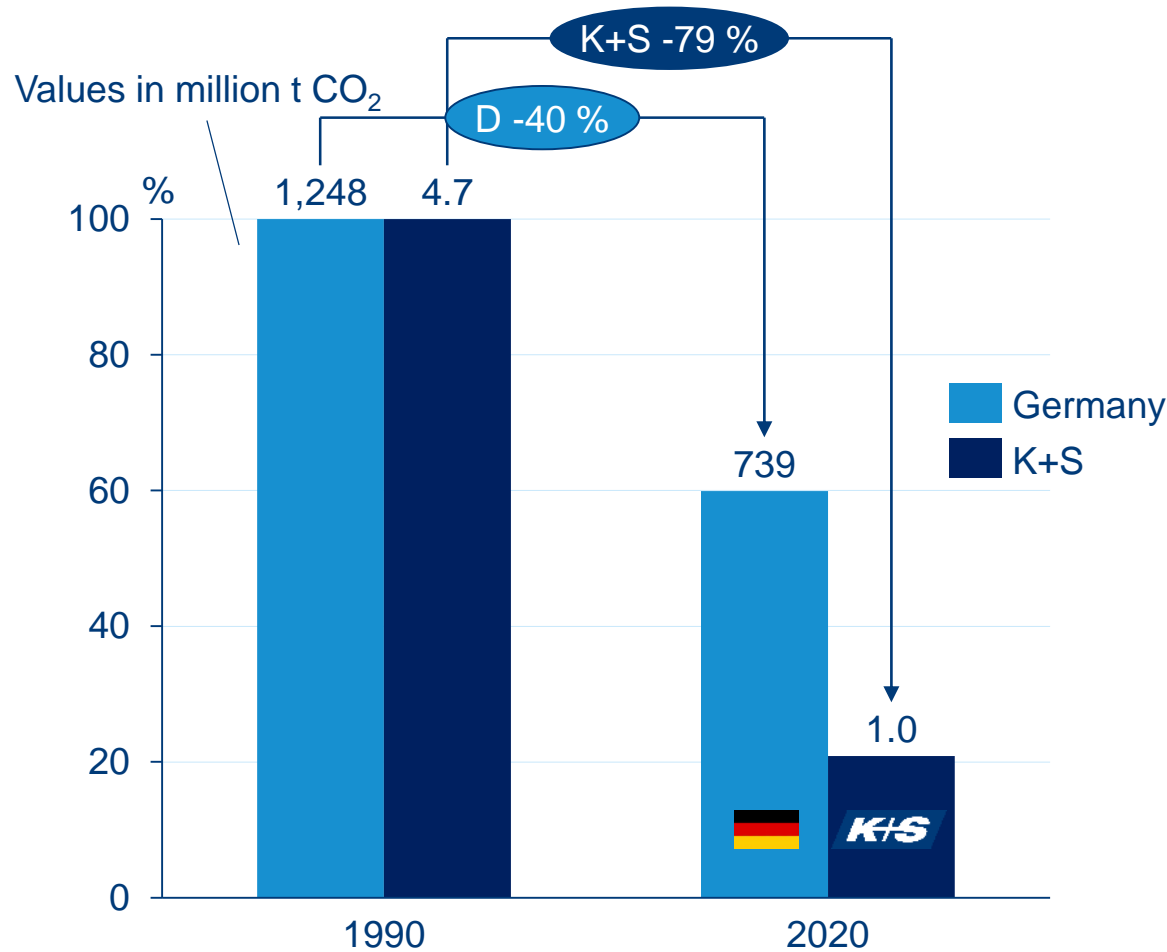
- The human being is our focus
- Active commitment to environmentally friendly production
- Integrity & a sense of responsibility characterize our actions



# K+S Climate Strategy (1)



Germany compared to K+S (German potash production, Scope 1)



**80% of CO<sub>2</sub> emissions already reduced (1990 – 2020)...**

... through fuel change, increased energy efficiency and site closures

# K+S Climate Strategy (2)



## Short-term goal

- Introduction of a **“K+S climate protection fund”** from **2022** to reduce our **CO<sub>2</sub>** emissions.

## Mid-term goal

- Reduction of our **CO<sub>2</sub> emissions by 10% by 2030** compared to 2020.

## Long-term goal

- **K+S supports the goals of the "Paris Agreement": Climate neutrality in 2050 can be achieved** with a supportive regulatory framework.
- K+S therefore calls for a worldwide **level playing field** (until then carbon leakage protection is required), strong energy **infrastructure**, transitional **funding** and **affordable renewable energies**.

# K+S Sustainability Goals 2030



	Goal (Sponsor)	KPI	2021	Target value 2030	Base year	Achievement of targets
Environment & Resources	Resource efficiency  (Holger Riemensperger, COO)	Injection of saline wastewater in Germany (million m <sup>3</sup> p.a.)	1.0	0 (starting January 2022)	2017 (1.2)	100%
		Additional reduction of saline process water to be disposed of from potash production in Germany (million m <sup>3</sup> p.a.)*	+0.6	-0.5 (excluding reduction by KCF facility and end of production SI)	2017 (0)	0%
		Amount of residue used for purposes other than tailings piles formation or avoided by increasing the yield of raw material (million t p.a.)	0.2	3	2017 (0.2)	6%
		Additional covered tailings piles area	10.1	155	2017 (0)	7%
	Energy & Climate  (Dr. Burkhard Lohr, CEO)	Absolute CO <sub>2</sub> emissions in the K+S Group worldwide	-0.5%	-10%	2020	5%
	Specific greenhouse gas emissions (CO <sub>2</sub> ) in logistics (kg CO <sub>2</sub> e/t)	-11.6%	-10%	2017	100%	

# K+S Sustainability Goals 2030



	Goal (Sponsor)	KPI	2021	Target value 2030	Base year	Achievements of targets
Society & Employees	<b>Health &amp; Safety</b> (Holger Riemensperger, COO)	Injury with lost time (LTIR)*	11.3	0 Vision 2030	2017 (11.5)	<div style="width: 2%;"><div style="width: 2%;"></div></div> 2%
	<b>Diversity &amp; Inclusion</b> (Dr. Burkhard Lohr, CEO)	Positive perception of an inclusive work environment by employees	54.4%	> 90%	2019 (54.4)	<div style="width: 60%;"><div style="width: 60%;"></div></div> 60%
Business Ethics & Human Rights	<b>Sustainable Supply Chains</b> (Holger Riemensperger, COO)	Percentage of critical suppliers that have acknowledged the Supplier Code of Conduct of the K+S Group*	86.6%	100% end 2025	2017 (0)	<div style="width: 87%;"><div style="width: 87%;"></div></div> 87%
		Coverage of the purchasing volume by the Supplier Code of Conduct of the K+S Group*	80.7%	> 90% end 2025	2017 (0)	<div style="width: 90%;"><div style="width: 90%;"></div></div> 90%
	<b>Compliance &amp; Anti-Corruption</b> (Dr. Burkhard Lohr, CEO)	Coverage of the K+S companies with a standardized compliance risk analysis (was designed 100% in 2020 after achieving the old target)	25.0%	100%	2020 (0)	<div style="width: 25%;"><div style="width: 25%;"></div></div> 25%

(dated March 8., 2022)

# K+S Sustainability Management



## Ratings & Rankings

Organisation	Rating Scale	2018	2019	2020	2021
Dow Jones Sustainability Indexes	Rating scale 0 to 100 (The lower, the better)	34	35		
MSCI	Rating scale from AAA to CCC (A: average)	A	A	A	A
ISS-ekom	Rating scale from A+ to D-	C-	C-	C-	
CDP DISCLOSURE INSIGHT ACTION	<b>Climate</b> Rating scale from A to D-	C	C	C	C
	<b>Water</b> Rating scale from A to D-	C	B-	B	B
SUSTAINALYTICS	Rating scale from 0 to 40+ (The lower, the better)		37.9	38.5	39.1
V.E	Rating scale from 0 to 100 (The higher, the better)		44	45	46

## EU principles for sustainable raw materials



# The contribution of our products to the SDGs



**SUSTAINABLE  
DEVELOPMENT  
GOALS**



	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	6 CLEAN WATER AND SANITATION	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	15 LIFE ON LAND
<b>Agriculture</b>	●	●					●	○	
<b>Industry</b>	●	●	○	○	●	●	●		○
<b>Consumer</b>	●	○							
<b>Communities</b>		○			○				

Direct effect
  Longer-term, overarching, indirect effects





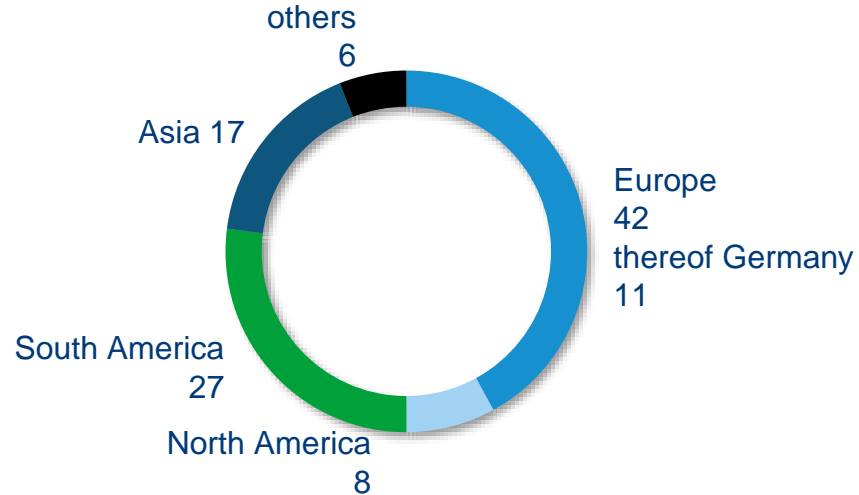
**K+S**

## **3. Customer Segment Agriculture**

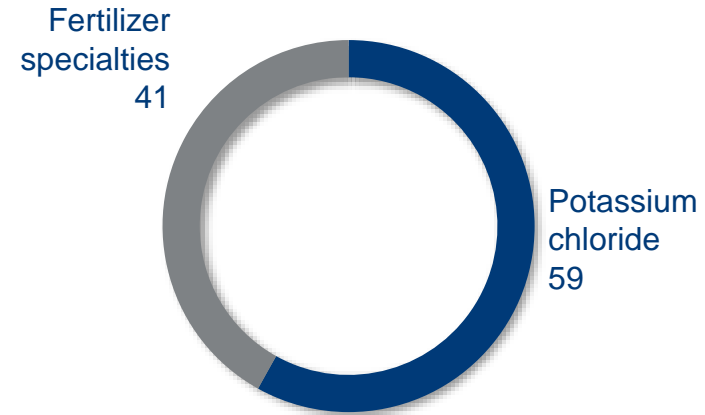
# Customer segment Agriculture at a glance



## Revenue split by region 2021 (%)



## Revenue split by products FY/2021 (%)



## Characteristics

- Close proximity to our most important customers as a logistical advantage
- Shipments to overseas customers at competitive costs from Hamburg harbour
- Solid and long-term customer relationships
- Broad specialty portfolio provides flexibility and stability, partly following different trends and seasons

in € million	FY/2020	FY/2021
<b>Revenues</b>	<b>1,701.5</b>	<b>2,272.1</b>
<b>Sales volume (mt)</b>	<b>7.30</b>	<b>7.62</b>



# Why use fertilizers?



„The growth and yield of a plant is limited by the nutrient available in the smallest amount“<sup>1</sup>



- Plants need sunlight, water and mineral to thrive.
- There are few soils on earth which have a sufficient content and availability of **plant nutrients** to achieve **high yields** over a longer period without fertilization.
- Potash is an **indispensable** addition to the natural nutrient content of arable soils.
- The deprivation of nutrients by harvesting and other factors must be compensated by balanced fertilization.

<sup>1</sup>Justus von Liebig, “Die Naturgesetze des Feldbaus“, 1863

# Long-term demand drivers



**Agriculture**

**– Demand Drivers –**

**Industry+**



**Arable land shrinking**

**Water scarcity**

**Increasing standard of living**

**Population growth**

**Economic growth  
and industrialization**

**Urbanization**

**Winter weather conditions**

**Infrastructure development**

**Global warming**

**Industry & Pharma**



**Consumer**



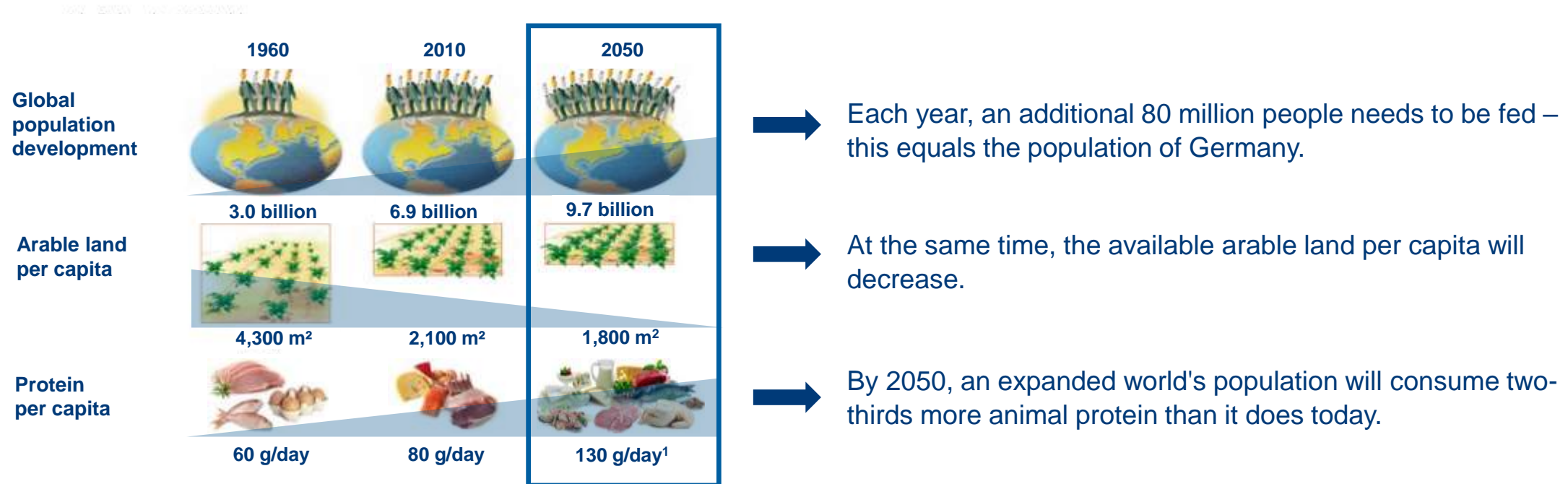
**Communities**



# Long-term key drivers for our fertilizer business



## Less arable land – but more protein consumption per capita



In 2050, only roughly a quarter of a soccer field will be available for a person's annual food supply – 80 percent of the future growth in agricultural commodity production will result from increases in yields. This is achieved through the use of balanced fertilization.

Source: UN, World Population Prospects, 2012 Revision, UNDP, 2013; FAOStat 2014; <sup>1</sup> FAO 2014 - Forecasts based on expected increase in animal protein

# What makes us different?



## Fertilizer specialties



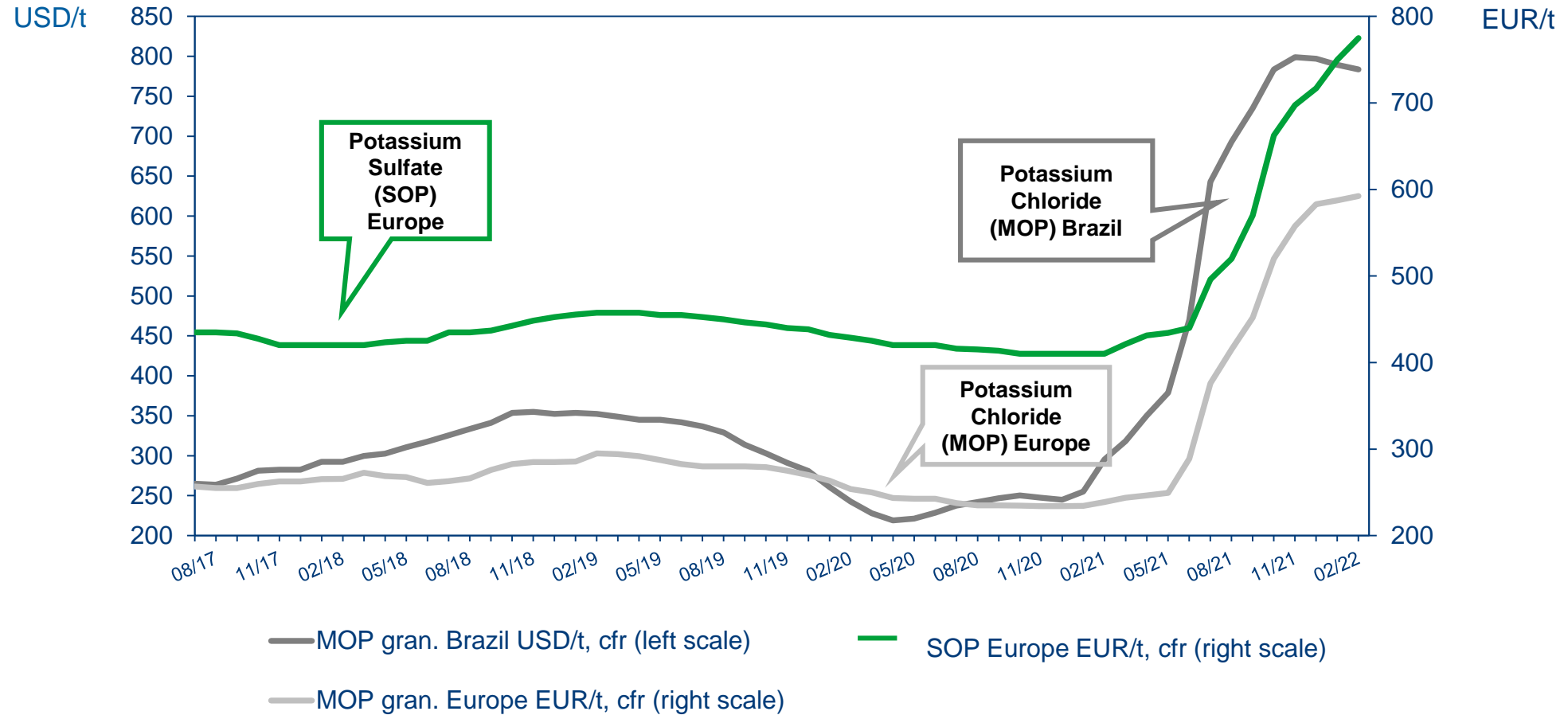
- Mainly used for special applications (e.g. chloride-sensitive crops)
- Products containing a broad range of nutrients (e.g. potash, magnesium, sulphur)
- Premium products used for high-value crops

## Potassium Chloride (MOP)

60<sub>er</sub> Kali®

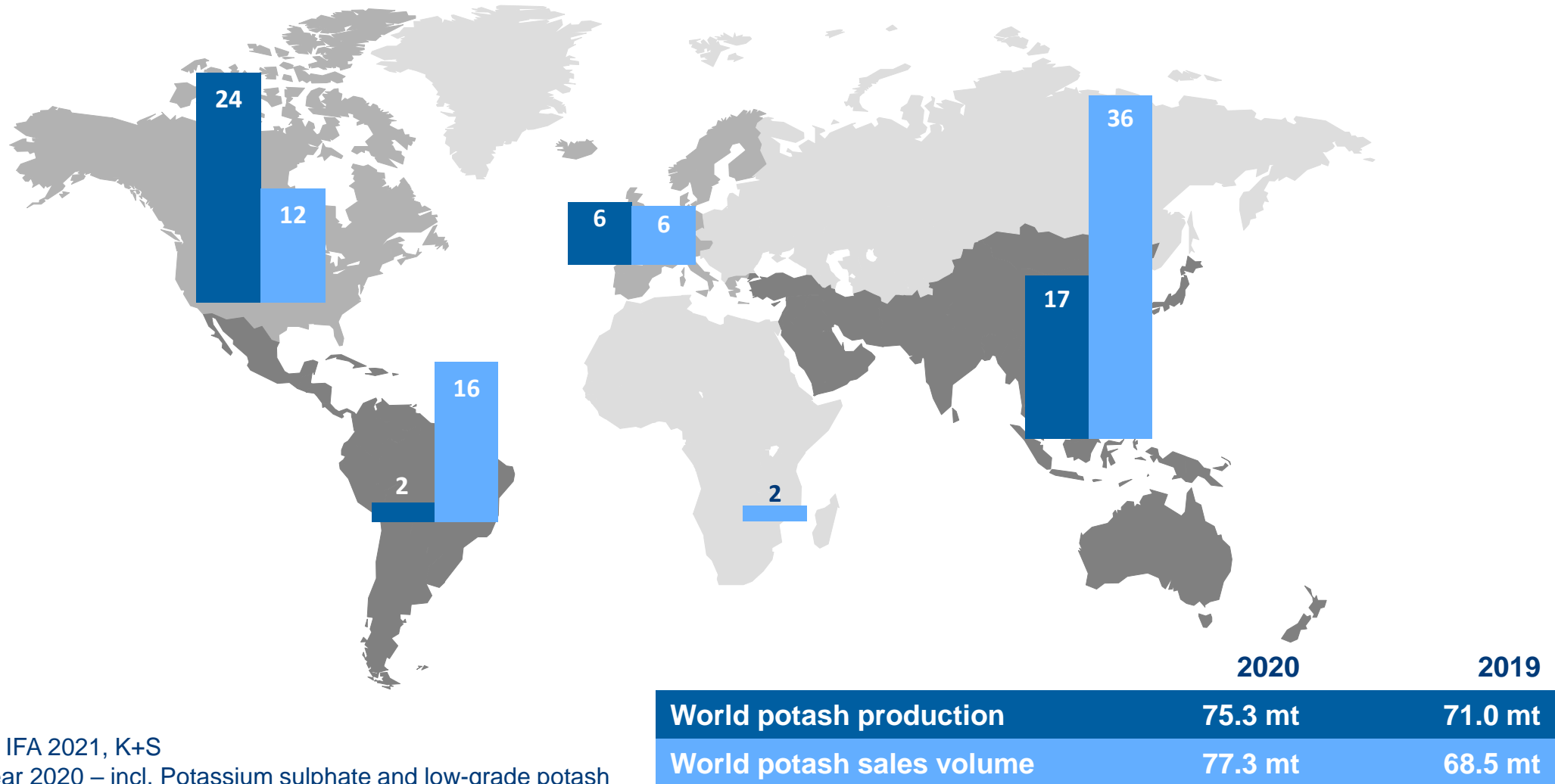
- Can be applied universally to all crops not sensitive to chloride and to all types of soil
- Standard product used for commodity crops

# Potash price development



Source: FMB Argus Potash

# World potash production and sales by region

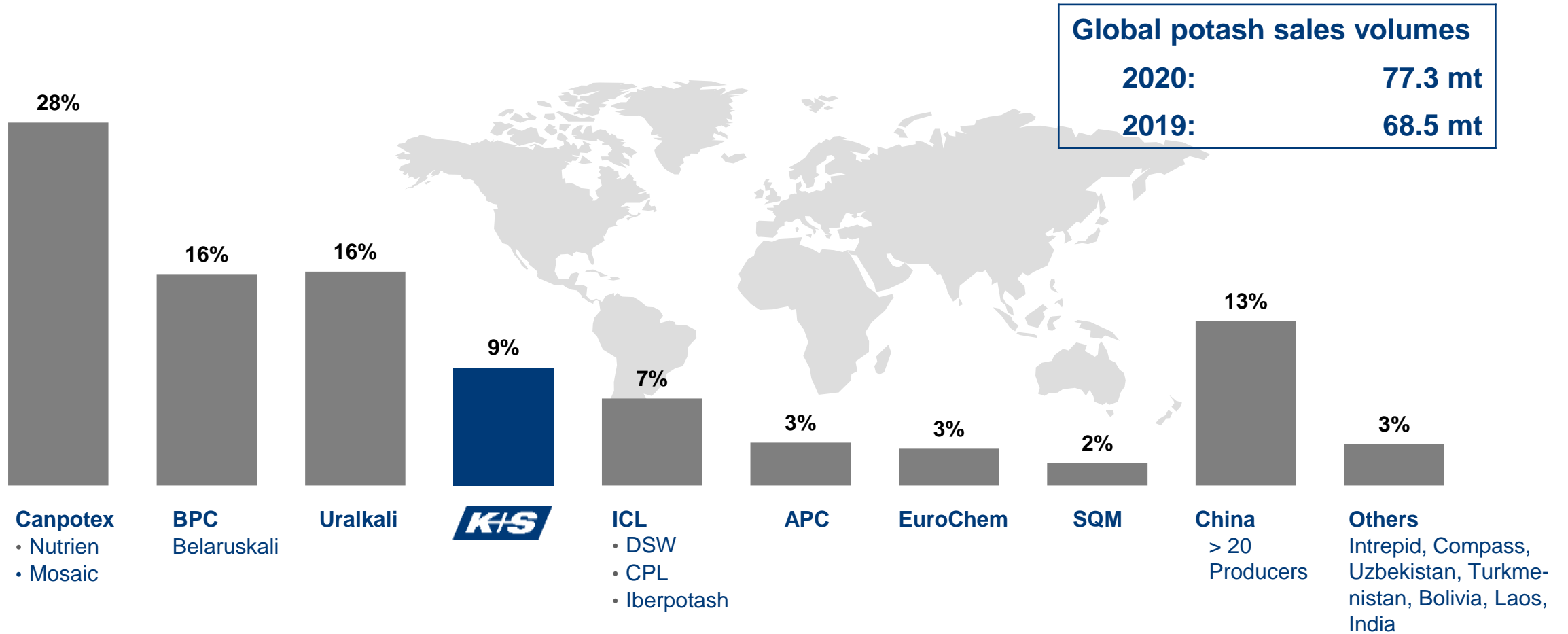


Sources: IFA 2021, K+S

Basis: Year 2020 – incl. Potassium sulphate and low-grade potash



# Supplier structure on the global potash market<sup>1</sup>



<sup>1</sup> incl. Potassium sulphate and low-grade potash

**Basis:** 2020; **Source:** IFA 2021, K+S

# Between desire and reality



Classification of potash projects announced since 2006 (Greenfield)

Projects announced or in early development phases

160

Projects with a high probability of realization until 2025

6

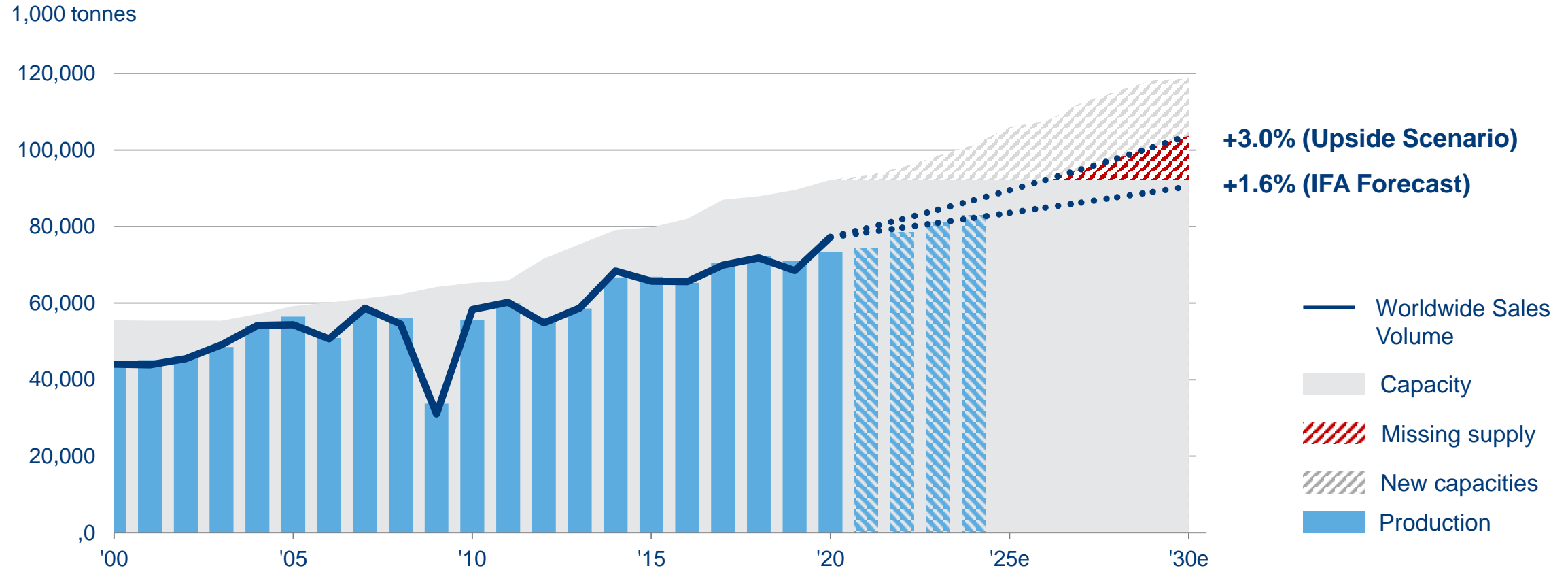
Projects in ramp-up phase

2

# Increasing demand for potash

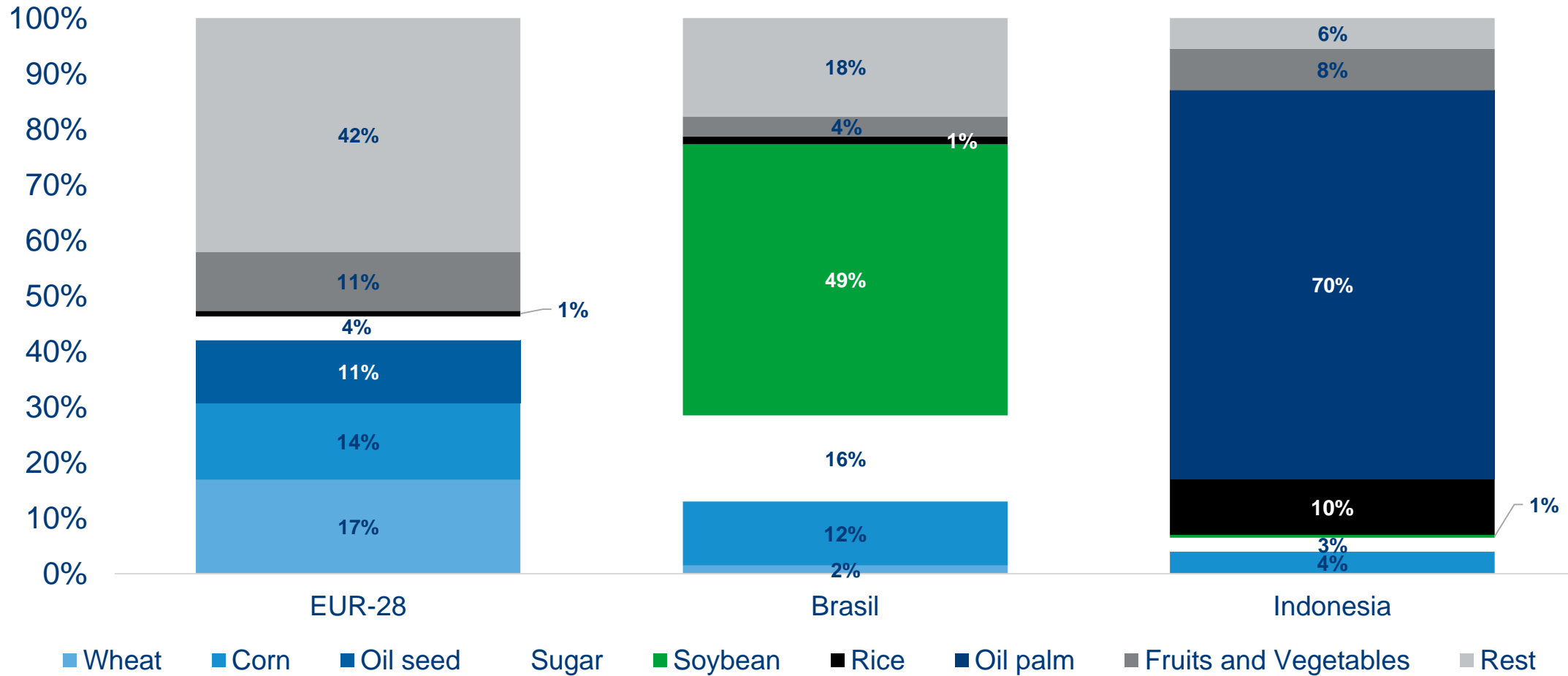


## New potash capacities needed to meet rising demand



**Source:** IFA, K+S; including potassium sulphate and low-grade potash of about 5 mt eff. (product)

# Potassium use by crop in selected countries



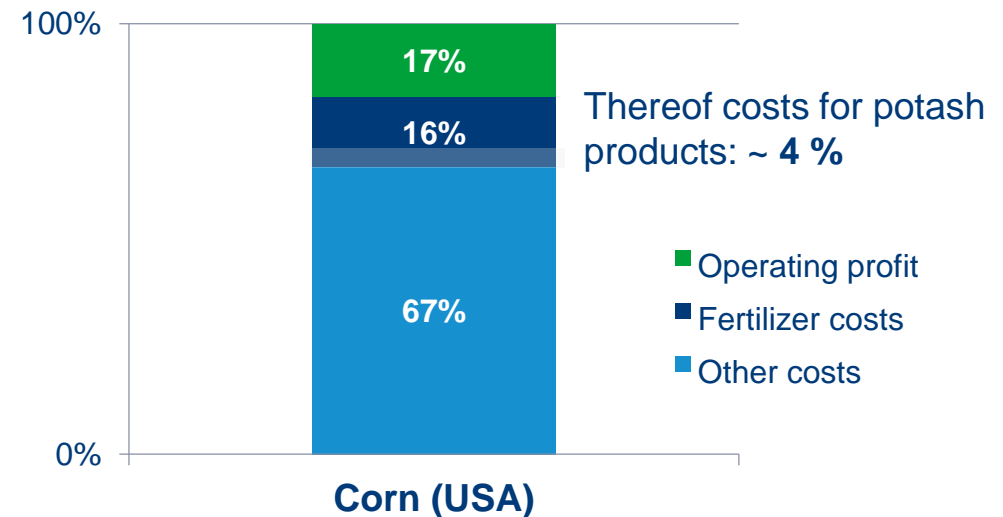
Source: IFA, "Fertilizer Use by Crop" based on data from 2014, published 2017

# Farmer profitability of corn (USA)



- The expenditure for potash products of an agricultural holding amount to only about 4% of the total costs.
- The earnings prospects should give the agricultural industry with sufficient incentive to increase the yield per hectare by using plant nutrients.
- 

## Profit potential in % of revenues



# Global potash sales volume by region



million tonnes	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Western Europe	5.9	5.6	5.8	6.2	6.0	5,9	6,2	6,2	6,0	6.2
Central Europe /FSU	4.4	5.1	4.7	4.4	4.8	4.8	5.2	5.4	5.5	5.6
Africa	0.7	0.7	0.8	1.0	1.0	1.1	1.4	1.6	1.4	1.6
North America	10.2	9.1	9.7	11.8	9.5	10.9	11.2	11.5	9.8	11.7
Latin America	10.5	10.5	11.0	11.9	11.5	12.2	12.7	13.7	13.5	15.8
Asia	28.0	23.4	26.2	32.4	32.3	30.1	32.5	32.6	31.6	35.7
- thereof China	12.7	12.0	13.8	16.7	18.5	16.2	16.2	16.3	17.8	19.5
- thereof India	5.0	2.8	3.5	4.5	4.1	4.0	5.0	4.5	4.5	5.4
Oceania	0.5	0.4	0.5	0.7	0.6	0.6	0.7	0.8	0.7	0.7
<b>World total</b>	<b>60.2</b>	<b>54.8</b>	<b>58.7</b>	<b>68.4</b>	<b>65.7</b>	<b>65.6</b>	<b>69.9</b>	<b>71.8</b>	<b>68.5</b>	<b>77.3</b>

Incl. potassium sulphate and low-grade potash of around 5 million tonnes eff. ; **Sources:** IFA, K+S

A close-up photograph of a medical professional, likely a nurse, wearing a white lab coat. The professional is holding a clear plastic IV drip chamber, which is part of an intravenous drip set. The chamber is suspended and contains a small amount of clear liquid. The background is a solid, vibrant blue. The lighting is soft, highlighting the contours of the professional's face and the details of the medical equipment. In the top right corner, there is a dark blue triangular graphic containing the white text 'K+S'.

**K+S**

## 4. Customer Segment Industry+

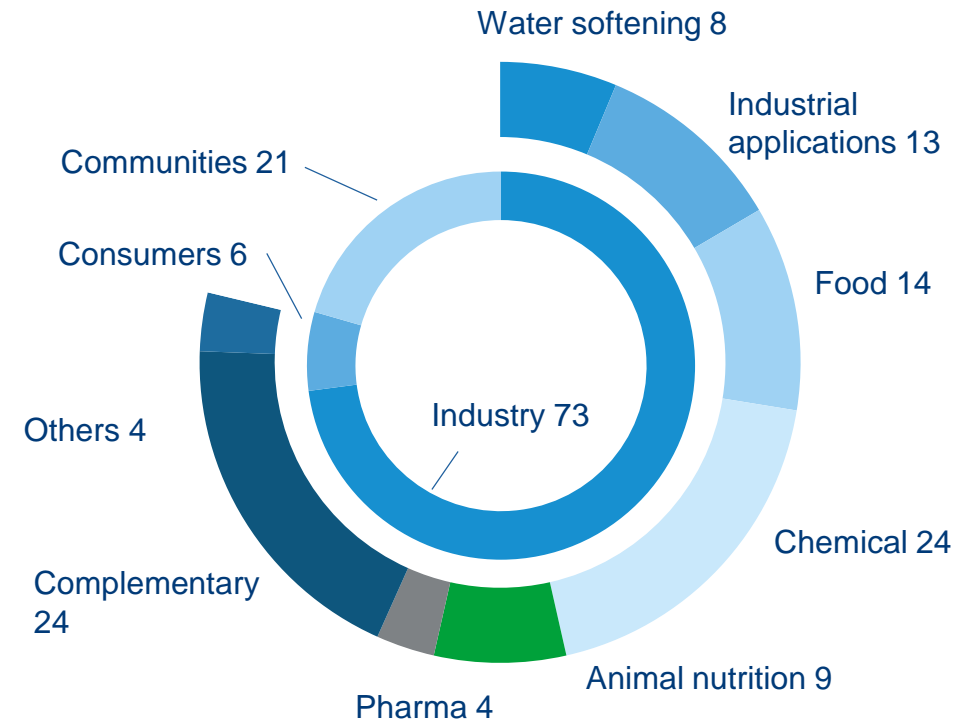
# Industry+ customer segment at a glance\*



## Characteristics

- Emerging markets: Growth, especially in Asia, leads to increasing demand for electrolysis.
- Electrolysis and specialties: Focus on product quality, service and proximity to the customer.
- Pharma: High quality standard, certified, innovative and overarching customer focus as well as reliability.
- Consumers: Strong brands in table salt, water softening salt, pool salts and de-icing salt.
- Communities: Public road construction authorities, winter road clearance service providers and large commercial users procure de-icing salt from K+S largely through public tenders.

## Revenue split by products FY/2021 (%)



€ million	FY/2020	FY/2021
Revenues	730.6	941.0
Sales volume (mt)	5.31	7.91
- thereof: de-icing	0.91	3.18

\*continued operations



# Hauptanwendungsbereiche



## Chemical

- Chlor-Alkali-processes (→ PVC)
- Polycarbonates and MDI (Isocyanat) (→ plastics, synthetic resin)
- Synthetic Soda ash(→ glass)



## Food processing

- Food processing industry
- Baking industry
- Condiment and preservative agent
- Preserving of fish



## Pharma

- Infusions, dialysis solutions
- Pharmaceuticals



## Oil and Gas

- Drilling fluids



## Animal nutrition

- Animal feed
- Lickstones



## Water softening

- Water softening
- Water treatment



## Complementary

- Waste management and recycling
- Granulation of Catsan® for Mars GmbH
- CFK (Trading)



## Others

- Dyeing works
- Leather treatment

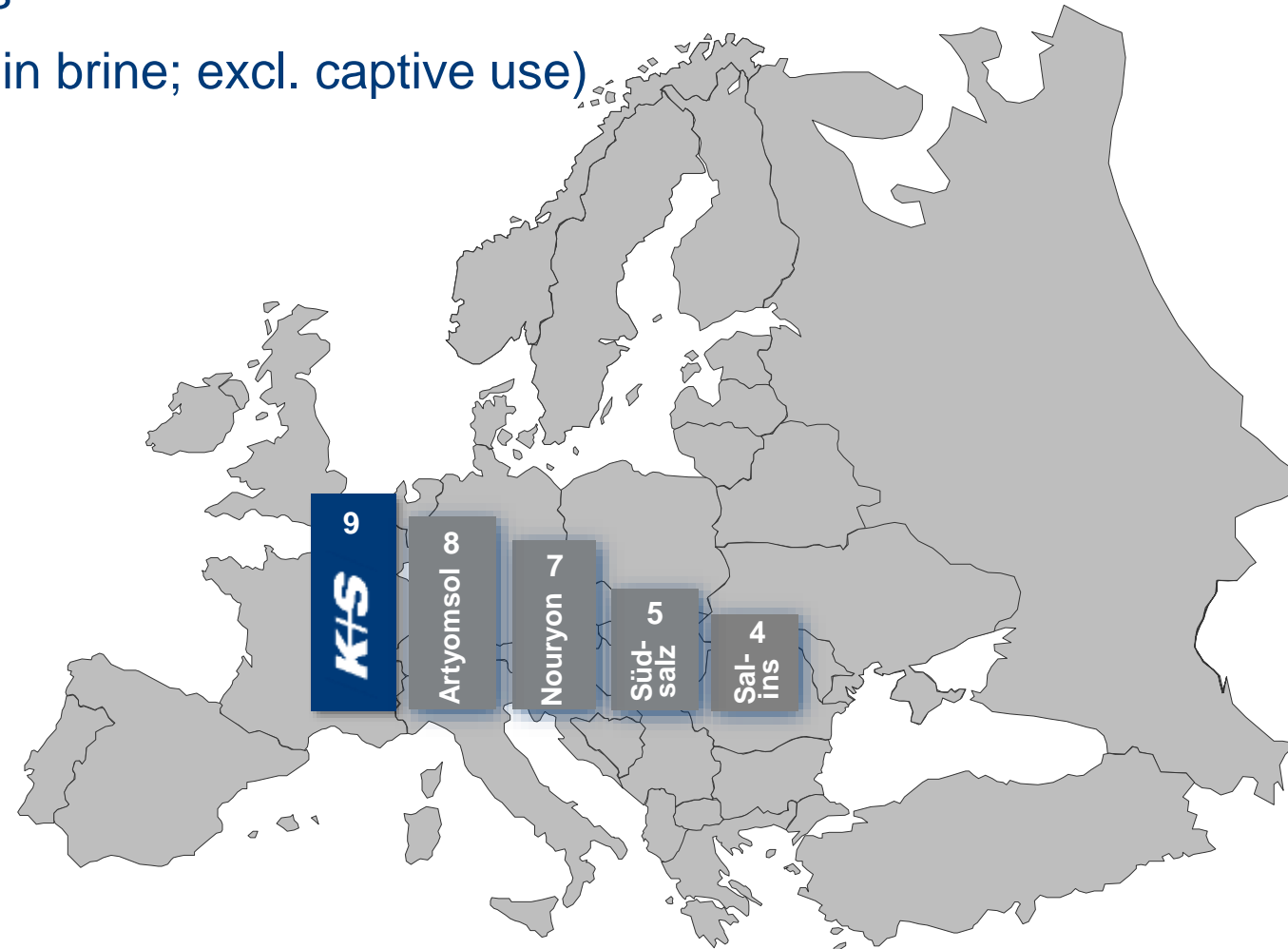


# Main salt suppliers in Europe



Capacity in million tonnes

(crystallized salt and salt in brine; excl. captive use)

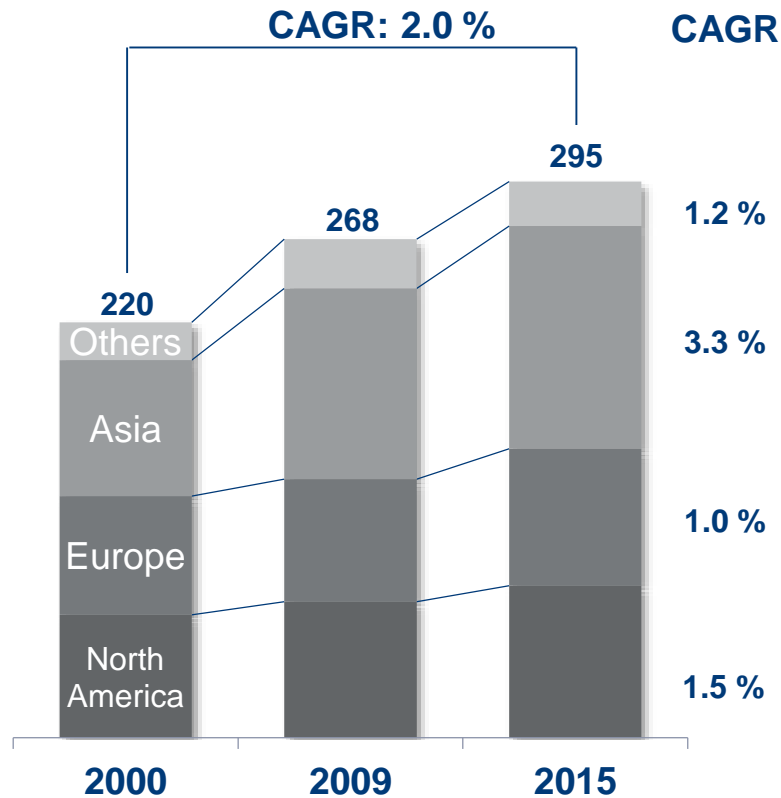


Source: Roskill, K+S

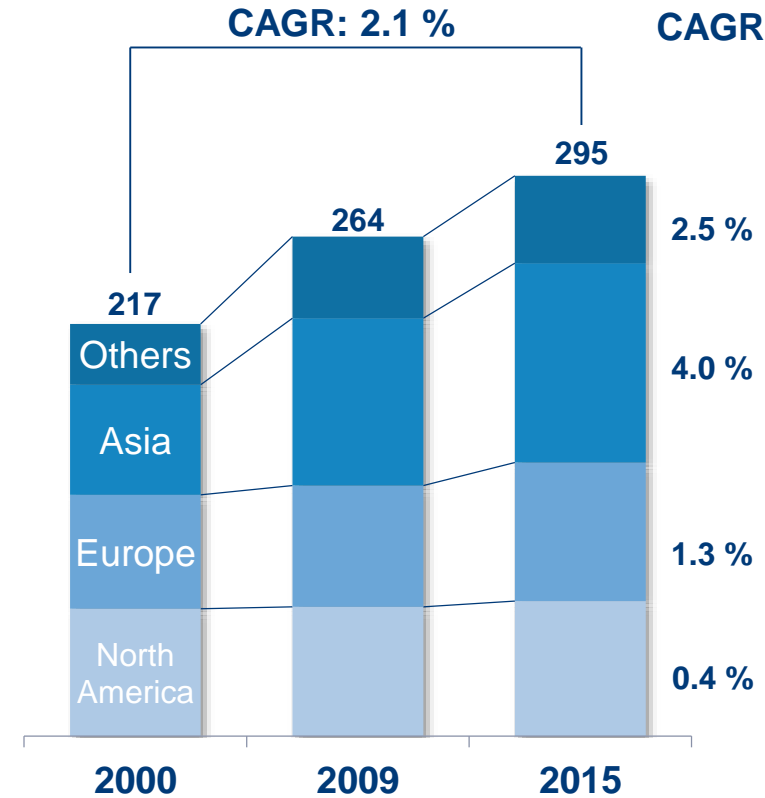
# Development of salt consumption and production<sup>1</sup>



## Consumption (in million tonnes)



## Production (in million tonnes)



<sup>1</sup> excl. captive use; Source: K+S, Roskill

The K+S logo is displayed in white, bold, sans-serif font on a dark blue, triangular background element that points towards the top right corner of the image.

# 5. Production

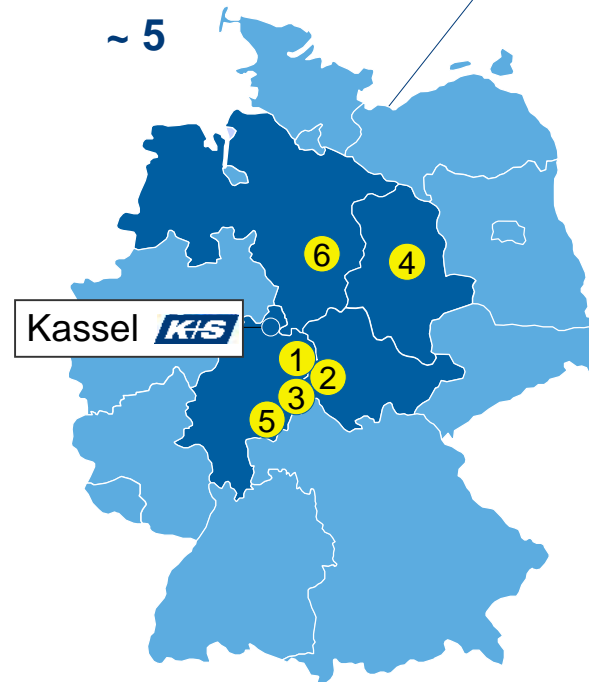


# Potash sites in Germany



## Share of annual production capacity (in %)

- |   |                     |      |
|---|---------------------|------|
| 1. Wintershall  | } Verbundwerk Werra | ~ 50 |
| 2. Unterbreizbach                                       |                     |      |
| 3. Hattorf  |                     |      |
| 4. Zielitz  | ~ 25                |      |
| 5. Neuhof-Ellers  | ~ 20                |      |
| 6. Bergmannsseggen-Hugo<br>(production site, no mining) | ~ 5                 |      |



## Potash mining in the Werra-Fulda region



# Clear focus of our sites

70 %



## Bethune

- Long-term ramp-up to up to four million tonnes of capacity
- Improvement of cost position
- Increase in granulated products



## Zielitz

- Improvement of the cost position
- Optimization of maintenance
- Increase in energy efficiency
- Increase in KaliSel production capacity



## Werra

- Optimization of product mix and production volumes
- Optimization of maintenance
- Increase in energy efficiency
- Increase in granulation capacity for potassium sulfate



## Neuhof

- Improvement of the mineral content through AI
- Increase of the granulating capacity of kieserite

➔ EBITDA impact: around €50 million p.a. from 2023

# Optimize the existing

70 %



## Agriculture

- Increase of marketing in USA ex Bethune
- Increase of trading business in Middle East, China and India
- Improved leveraging of local sales network



## Industrie+

- Focus on potash product groups for industrial product sales
- Capacity expansion of high-purity salts
- Optimization of de-icing salt setup

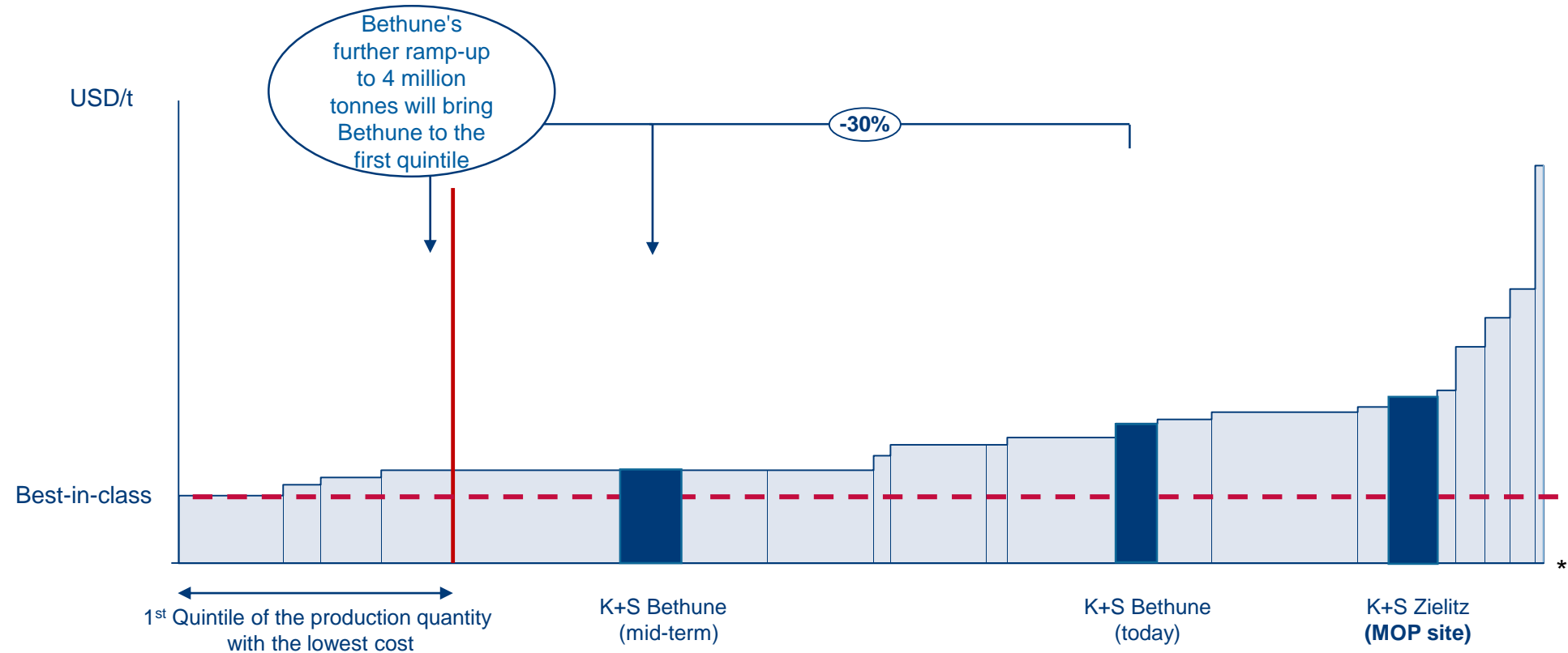


## Supply Chain

- Warehouse and network optimization for European salt logistics
- Optimization of warehousing
- Optimization of infrastructure utilization

➔ **EBITDA impact: around €30 million p.a. from 2023**

# Location costs (FOB) in comparison



Source: CRU Report 2019, K+S

\* Column width = Production capacity in million tonnes

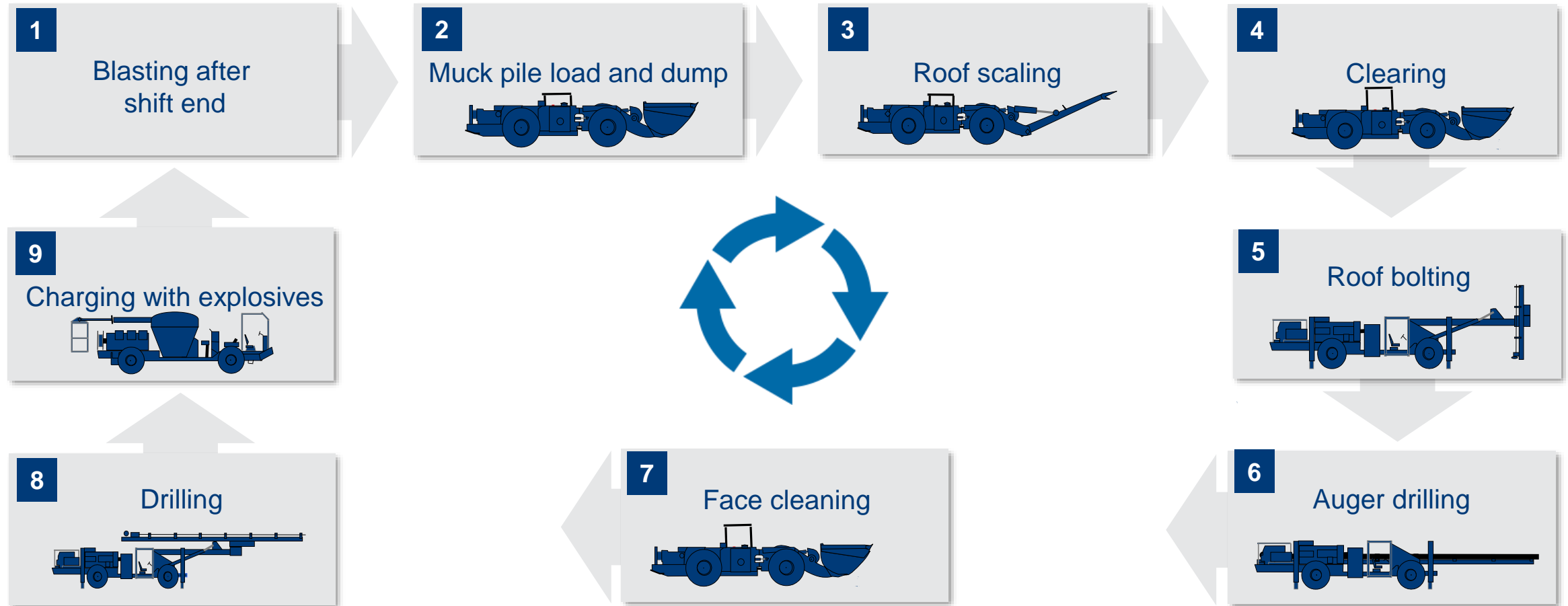
Continuous ramp-up of Bethune is increasingly improving our cash costs and, therefore, our competitive position



# Underground mining production cycle



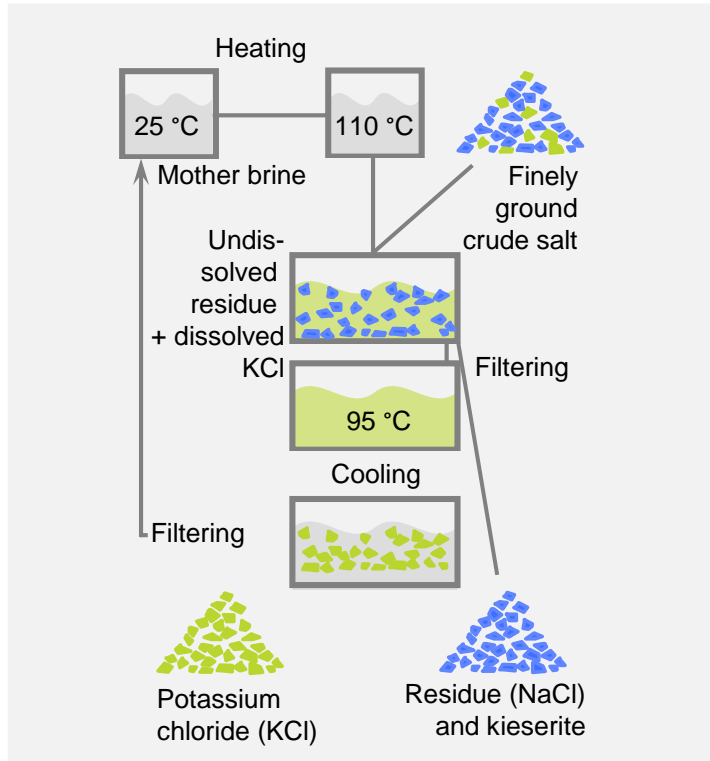
## Potash production



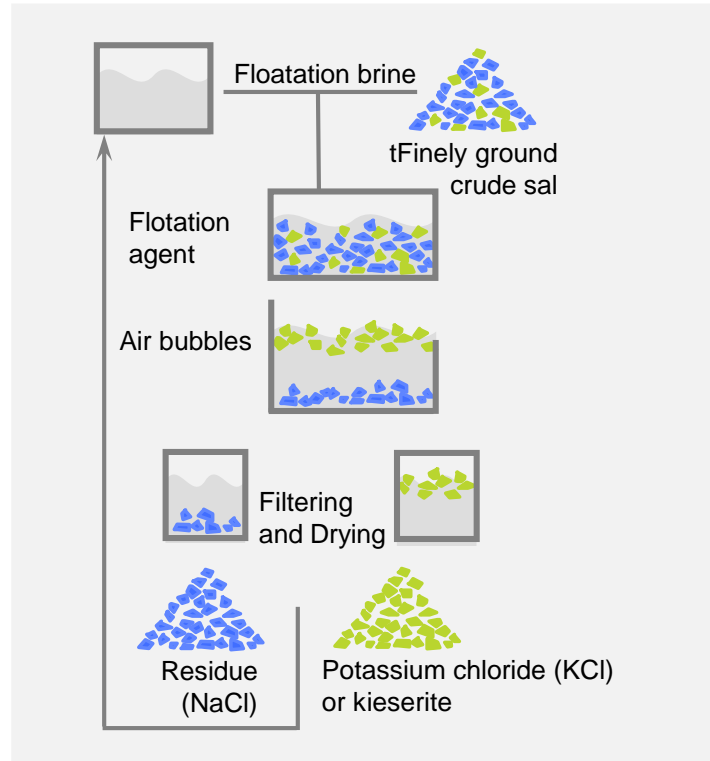
# Potash processing above ground



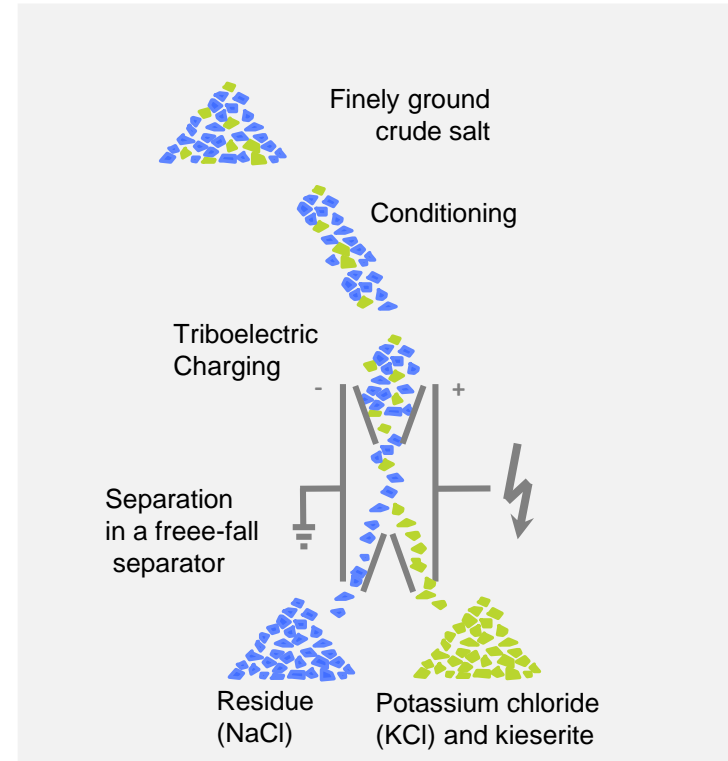
## Thermal dissolution



## Flotation



## Electrostatic separation (ESTA®)



# Potash production: management of residues



- The mined rock salt only contains a limited share of usable material (max. 30%), therefore a residue accumulation is unavoidable. This challenge is shared among all potash producing companies in the world!
- The recycling of partial quantities takes place at all producers.
- The methods, processes and equipment for the construction of tailings piles from solid residues are scientifically justified, tried and tested in practice. These ways of disposal – depending on the corresponding site – are used also in combination. They currently represent the best available technique. Solid or liquid residues are disposed of worldwide in the following ways:

**Tailings piles**



**Underground disposal**



**River injection\***



**Deep-well injection**

(for K+S in the Hessian-Thuringian potash district until the year 2021)



**Ø Share of residue disposed by this method in the Hessian-Thuringian potash district:**

**~80%**

**~9%**

**~8%**

**~3%**

\* With low river water levels in the Werra, there are possibilities for K+S in the Hessian-Thuringian potash district to temporarily store liquid residues in water basins or suitable mine spaces on site or temporary ways of disposal by flooding decommissioned mines or gas caverns in Lower Saxony or Saxony-Anhalt.

# Environmental investments create long-term planning security



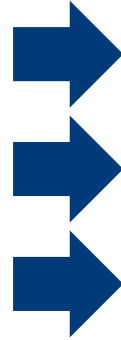
## Tailings piles extensions



Hattorf

Wintershall

Zielitz



- Completed by end of 2022 / beginning of 2023
- Next permit and significant investments in tailings pile extensions will not be necessary again until the end of the 2020s

## Liquid residues



Werra

- Deep-well injection ended 2021
- As of 2022: permanent storage underground (subject to approval)
- From 2028: Higher utilization of underground storage through further treatment of saline water
- Injection from 2028: only less concentrated tailings pile waters and no process waters

# Tailing pile coverage and greening



## Our objectives

- From 2030 onwards, K+S will be able to use three million tonnes of residue annually for purposes other than rearming.
- By 2030, we want to cover a further 155 hectares of tailings pile area and thus further reduce or avoid the accumulation of tailings pile water.

## The procedure

Soil and construction rubble are installed in several layers on the stockpile in a precisely defined process.

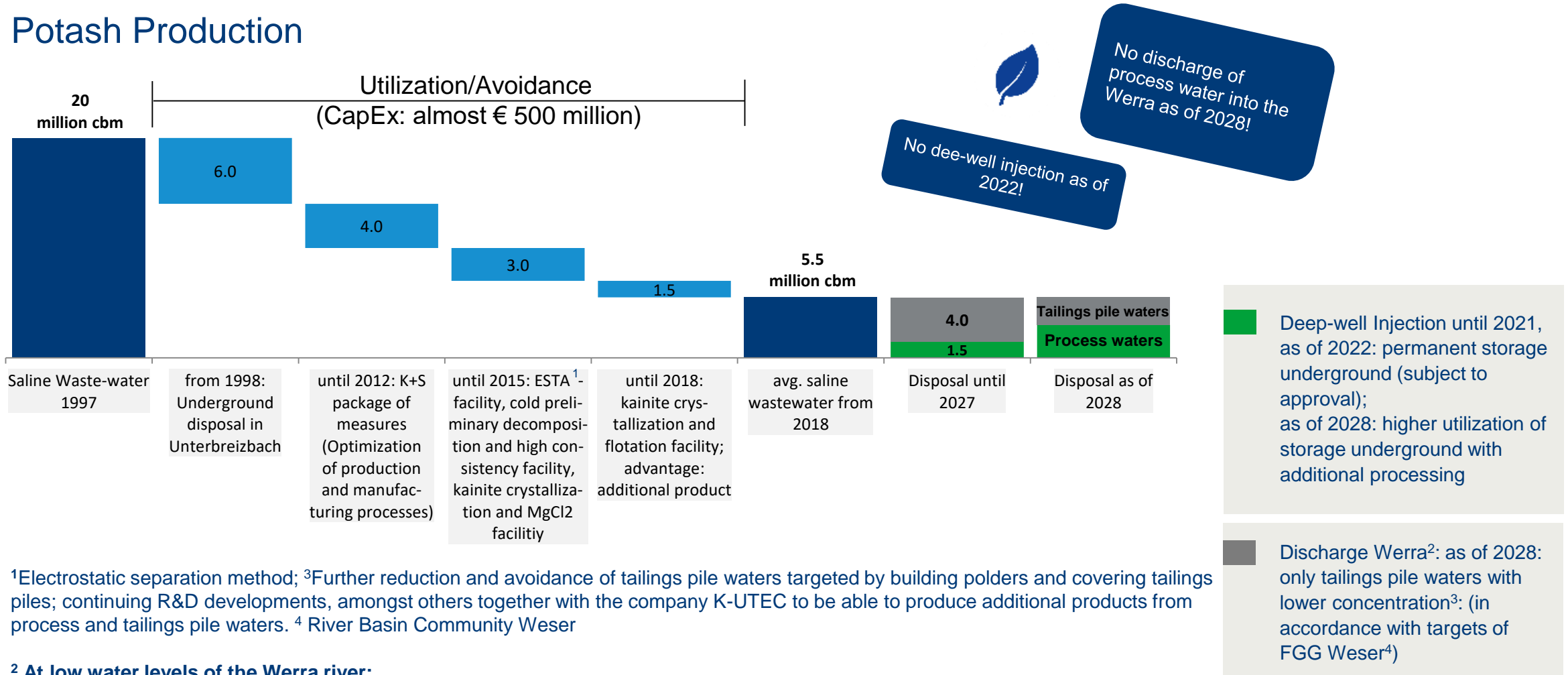
→ Formation of a cover, the upper layer of which is permanently greened



# Development of saline wastewater at the Werra site



## Potash Production



<sup>1</sup>Electrostatic separation method; <sup>3</sup>Further reduction and avoidance of tailings pile waters targeted by building polders and covering tailings piles; continuing R&D developments, amongst others together with the company K-UTEC to be able to produce additional products from process and tailings pile waters. <sup>4</sup> River Basin Community Weser

### <sup>2</sup> At low water levels of the Werra river:

On-Site: Temporary storage possibility of up to 1.0 million m<sup>3</sup> (basins and temporary storage underground)

Off-site: Flooding of decommissioned mines or gas caverns for their restoration

# Underground storage in Springen



## Our goal

- Stopping the injection of saline wastewater into the plate dolomite as of 2022.
- Stopping the discharge of saline wastewater into the Werra as of 2028.

**The solution:** Storage of process water into disused cavities → Mine field Springen offers 21,000,000 m<sup>3</sup> of space for underground storage.

## The procedure

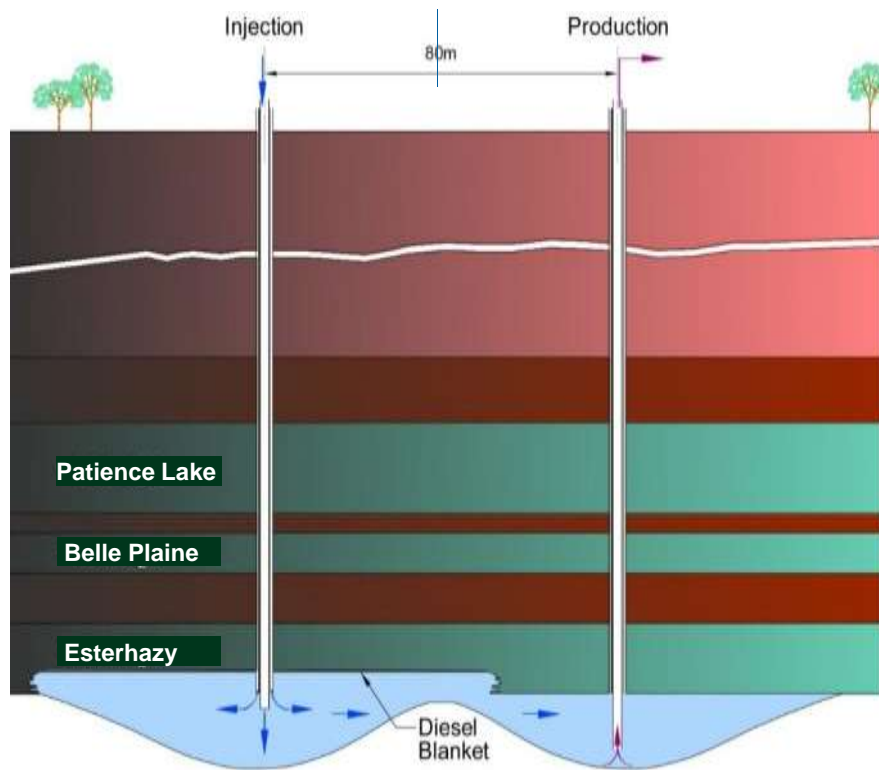
- Highly concentrated saline solution from potash production is discharged into the mine field via existing lines.
- Due to the high salt concentration of the liquid, the salt pillars, which are responsible for the stability of the shaft, are not damaged.
- Finally, the old shafts are tightly closed with gravel and clay so that no saline water can discharge.



# Bethune – solution mining (e.g.: primary mining)



In solution mining, freshwater is brought into solvent (salt) rock through a drill hole, therefore creating chambers, or caverns, filled with a water-salt solution. In a subsequent step, the saturated brine is brought to the surface through an additional pipeline.



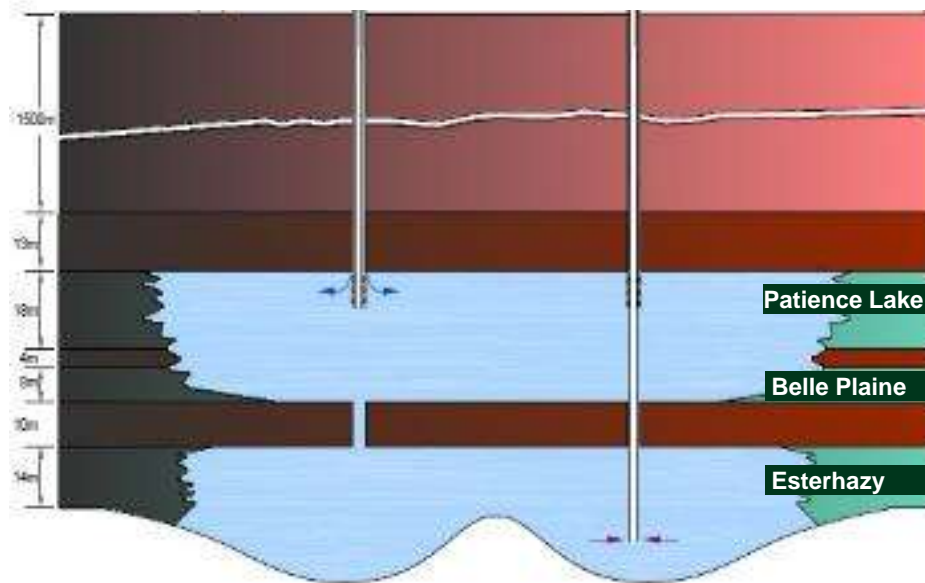
<b>Mining technique</b>	Solution mining
<b>Reserves/ resources</b>	160 / 982 million t KCl product
<b>Depth</b>	1,500 meters
<b>Thickness</b>	33 meters
<b>K<sub>2</sub>O / KCl Content</b>	18% / 29%
<b>Environmental impact statement</b>	approved for up to 4 million t of KCl/a



# Bethune – primary versus secondary mining



Secondary mining [NaCl brine mining / crystallisation pond]



- Secondary mining uses exclusively saturated NaCl solution to selectively dissolve residual KCl from existing caverns
- **Advantages (in comparison to primary mining):**
  - lower energy intensity (e.g. injection brine is heated via waste heat from evaporators and KCl is crystallized in the cooling pond via natural cooling)
  - substantially more efficient with the use of water
  - reduces salt to tailings up to 30%

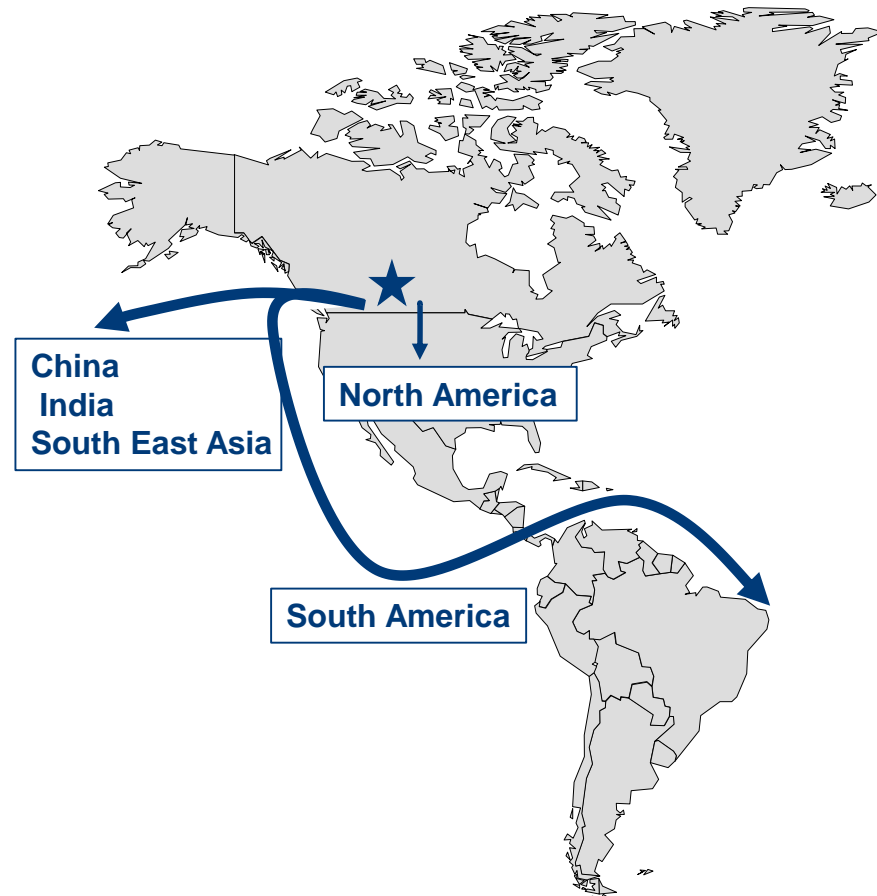


The production costs for NaCl brine mining are 50% of the production costs of primary mining.

# Bethune – Strengthening our global presence



## Potash production



- Expanding our current production portfolio in Germany with a North American production site → **Second-source supplier**
- Securing a **good asset base with competitive production costs**
- Sales and distribution through **existing distribution structures** of the K+S Group
- **Regional growth projects** in China and Southeast Asia
- **Flexible multi-product strategy**

# Main production methods



## Rock salt

Conventional mining



## Sea/solar salt

Crystallisation of sea water



## Evaporated salt

Recrystallization of purified brine



## Brine

Controlled borehole-brining



- Around 70% of worldwide salt production (more than 290 million tonnes including brine) is obtained from rock salt mining and solution mining.
- Approximately 30% of production is obtained from seawater and salt lakes.
- Salt is produced in almost every country in the world. Due to the high share of transportation costs in production costs, markets are generally regionally limited to the area around the production locations.

The K+S logo is displayed in white, bold, italicized letters on a dark blue background. The background of the entire slide is a photograph of a modern building at night, illuminated with blue light, with a train visible in the foreground.

**K+S**

## **6. Financial Data**

# FREP examination terminated



Valuation of the Potash and Magnesium Products CGU subject to the examination of the 2019 and H1/2020 financial statements by the Financial Reporting Enforcement Panel (FREP – DPR)

## Examination is terminated. There was:

- **No fine** imposed and
- **no need for adjustments** to valuations.
- + **Full reversal of 2020's impairment loss** by Q3 2021

Write-up results from significantly more optimistic expectations for the potash business and the price development related to this.

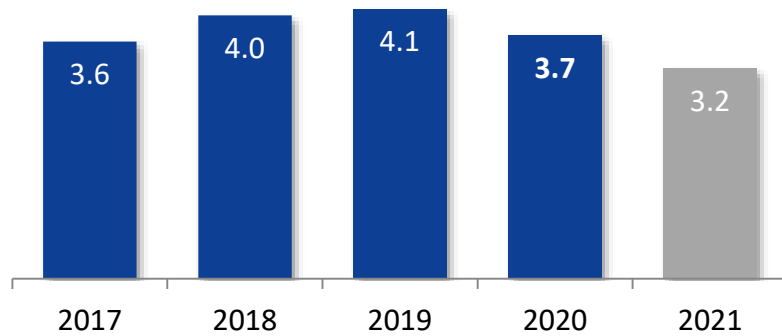
Preliminary findings that the value in use of the CGU had not been reliably determined is not included in final examination findings. What remains of the findings:

- Information (e.g. changes in assumptions and uncertainties in estimates) in connection with the impairment test was not reported appropriately
- No impairment test was carried out for the interim financial statements of K+S AG as of 30 June 2020 for the net book value of the Potash and Magnesium Products CGU, although there were indications that the net assets could be impaired.
- It was not published with sufficient clarity that the H1/2020 FCF mainly resulted from non-operating/working capital measures (e.g. factoring)

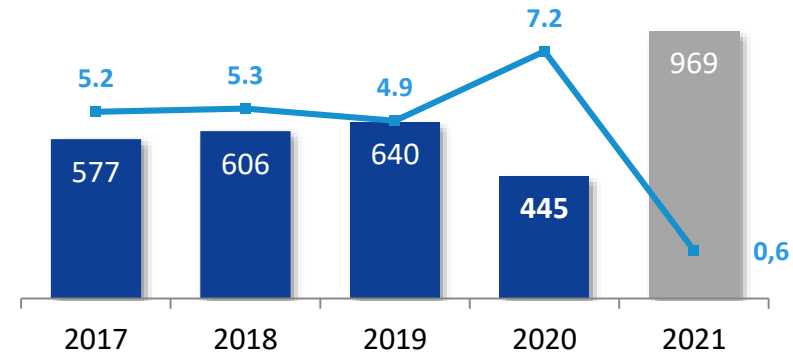
# Key financial figures<sup>1</sup>



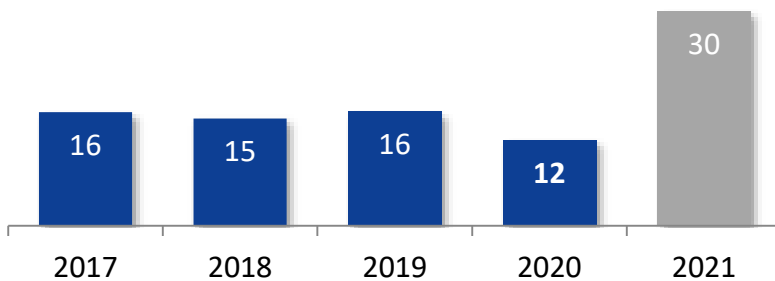
## Revenues (€ billion)



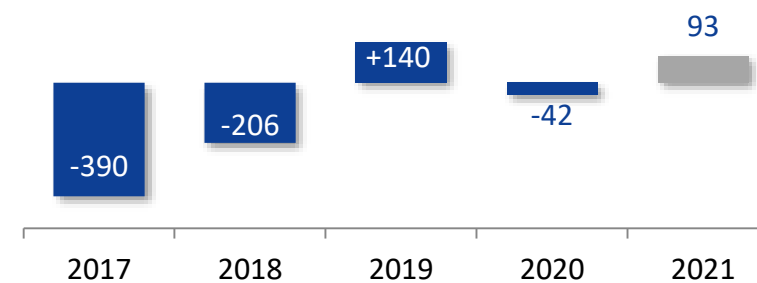
## EBITDA vs Net Financial Debt/EBITDA



## EBITDA margin (%)



## FCF (€ million)

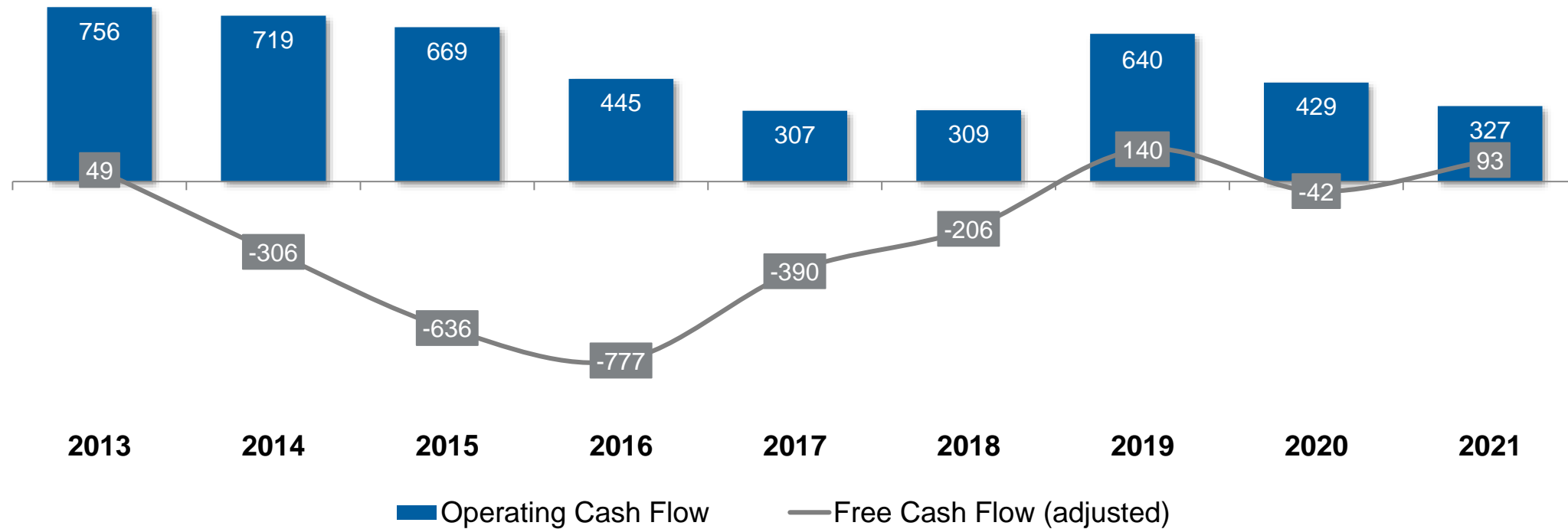


<sup>1</sup> Continued and discontinued operations until 2018, from 2019 only continuing operations

# Operating and adjusted cash flow



Continued and discontinued operations until 2018,  
from 2019 only continuing operations (in € million)



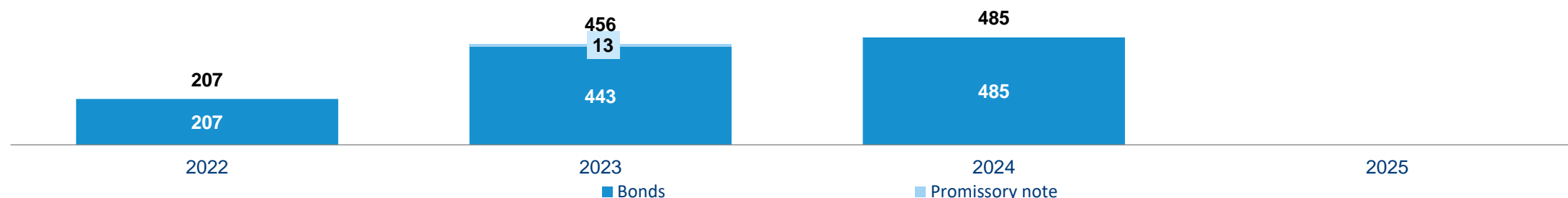
# Debt profile (promissory notes and bonds)



## Financing instruments

in € million	Amount outstanding	Coupon	Maturity
Promissory note loans	13		
Senior unsecured notes due 2022	207	3.000%	Jun-22
Senior unsecured notes due 2023	443	2.625%	Apr-23
Senior unsecured notes due 2024	485	3.250%	Jul-24

## Debt maturity profile



**+ Syndicated credit facility up to €600 million (available until 2024)**

**+ Commercial paper program as an additional source of liquidity**



# Cash flow and balance sheet



Continued and discontinued operations until 2018,  
from 2019 only continuing operations

	3M/20	H1/20	9M/20	FY/20	3M/21	H1/21	9M/21	FY/2021
Operating cash flow	255	323	328	429	147	69	83	
- thereof continuing operations	124	169	227		82	81	95	347.3
Investing cash flow (pre-sale/purchase of securities)	-51	-157	-283	-471	-110	2.480	2.063	
- thereof continuing operations	-44	-138	-237	-381	- 97	-164	-247	254.6
<b>Adjusted Free Cash Flow</b>	<b>204</b>	<b>161</b>	<b>45</b>	<b>-42</b>	<b>37</b>	<b>2.549</b>	<b>2.480</b>	<b>2,691</b>
<b>- thereof continuing operations</b>	<b>80</b>	<b>31</b>	<b>-10</b>	<b>-110</b>	<b>-15</b>	<b>-83</b>	<b>-152</b>	<b>92.7</b>
Capex	88	207	343	526				
- thereof continuing operations	72	174	288	428	48	135	223	334
<b>Net financial debt</b>	<b>2,917</b>	<b>2,979</b>	<b>3,109</b>	<b>3,217</b>	<b>3,185</b>	<b>695</b>	<b>-784</b>	<b>-606</b>
Net financial debt / EBITDA <small>(LTM)</small>	5.1	5.6	5.7	7.2	7.2	2.0	2.0	0.6
Equity ratio	42%	43%	28%	27%	30%	48%	55%	61%

The K+S logo is positioned in the top right corner of the slide. It consists of the letters 'K+S' in a bold, white, sans-serif font, set against a dark blue, trapezoidal background that is part of a larger blue graphic element extending from the top right corner of the slide.The background of the slide is a photograph of an underground mine. A large, dark-colored haul truck is filled with a pile of grey, rocky material, likely coal or mineral ore. The truck is positioned in the center of the frame. The surrounding environment is a dimly lit, cavernous space with rough, grey rock walls and ceiling. A bright light source from the left creates a strong beam of light that illuminates the scene, casting long shadows and highlighting the texture of the rock. In the background, a person can be seen standing near a rock wall, and the number 'E30' is visible on the rock face. The overall atmosphere is industrial and rugged.

## 7. Investor Relations

# Investor Relations Contacts



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- Website: [www.kpluss.com](http://www.kpluss.com)
- IR-Website: [www.kpluss.com/ir](http://www.kpluss.com/ir)
- Newsletter: [www.kpluss.com/newsletter](http://www.kpluss.com/newsletter)

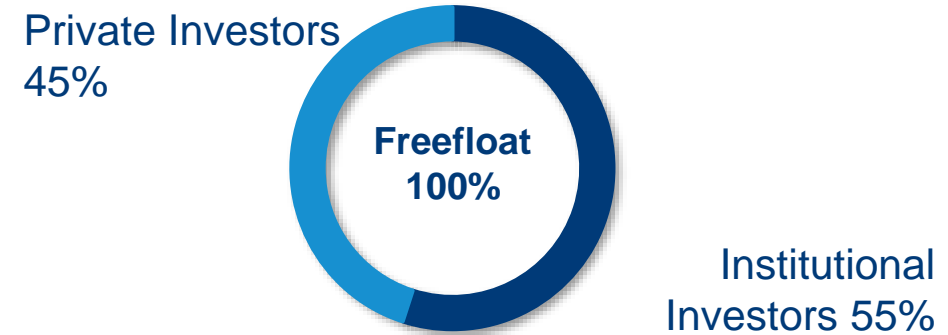
# K+S Share



## Key data

- **WKN:** KSAG88
- **ISIN:** DE000KSAG888
- **Type of shares:** registered shares of no-par value
- **Total number of shares :** 191,400,000
- **Trading segment:** Prime Standard
- **Ticker symbols:** Bloomberg SDF / Reuters SDFG

## Shareholder structure as of Dec 31, 2021



## The following banks publish research studies about K+S:

- AlphaValue
- Baader Helvea Equity Research
- Bank of America
- Berenberg Bank
- BMO Capital Markets
- Citi Research
- Deutsche Bank
- DZ Bank AG
- Exane BNP Paribas
- Independent Research
- J.P. Morgan
- Kepler Cheuvreux
- LBBW
- M.M. Warburg
- Morgan Stanley
- Oddo BHF
- Pareto Securities AS
- Scotia Capital
- Société Générale
- Stifel
- UBS

# K+S ADR Programm



The K+S ADR Program offers North American investors the opportunity to take stock in K+S. Since the ADRs are quoted in US dollars and dividends are also distributed in US dollars, this financial instrument closely resembles an American share. Two ADRs represent one K+S ordinary share. The K+S ADRs are traded in the United States under a level 1 ADR Program in the over-the-counter market (OTC).

## Trade on OTCQX

**Symbol:** KPLUY  
**CUSIP:** 48265W108  
**Ratio:** 2 ADRs = 1 Share  
**Country:** Germany  
**ISIN:** DE000KSAG888  
**Depository:** The Bank of New York Mellon

## Benefits to North American investors

- Clear and settle according to normal U.S. standards
- Stock quotes and dividend payments in U.S. dollars
- Can be purchased/sold in the same way as other U.S. stocks via a U.S. broker
- Cost-effective means of international portfolio diversification

Further information: [www.kpluss.com/adr](http://www.kpluss.com/adr)

# K+S bonds and issuer rating



**Issuer rating (S&P):** B+ (outlook: stable), September 2021

	<b>Bond 06/2022</b>	<b>Bond 04/2023</b>	<b>Bond 07/2024</b>
<b>WKN</b>	A1P GZ8	A2E 4U9	A2N BE7
<b>ISIN</b>	DE000A1PGZ82	XS1591416679	XS1854830889
<b>Listing</b>	Luxembourg SE	Luxembourg SE	Luxembourg SE
<b>Issue volume</b>	EUR 500 mln	EUR 625 mln	EUR 600 mln
<b>Outstanding volume</b>	EUR 205.700 mln	EUR 431.477 mln	EUR 472.100 mln
<b>Issue Price</b>	99.422%	100.982%	100.000%
<b>Coupon</b>	3.000%	2.625%	3.250%
<b>Maturity</b>	20.06.2022	06.04.2023	18.07.2024
<b>Face Value</b>	EUR 100,000	EUR 1,000	EUR 100,000

# Additional information



## Financial calendar 2022

Annual Report	10 March 2022
Quarterly Report; March 31, 2022	11 May 2022
Annual Shareholders' Meeting	12 May 2022
Dividend payment	17 May 2022
Half-yearly Financial Report, June 30, 2022	11 August 2022
Quarterly Report; September 30, 2022	10 November 2022

## More content available online

- K+S Website: [www.kpluss.com](http://www.kpluss.com)
- Annual reports: [www.kpluss.com/ar2021](http://www.kpluss.com/ar2021)
- Newsletter subscription: [www.kpluss.com/newsletter](http://www.kpluss.com/newsletter)
- Social Media: 

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