

May 2023

### K+S Aktiengesellschaft

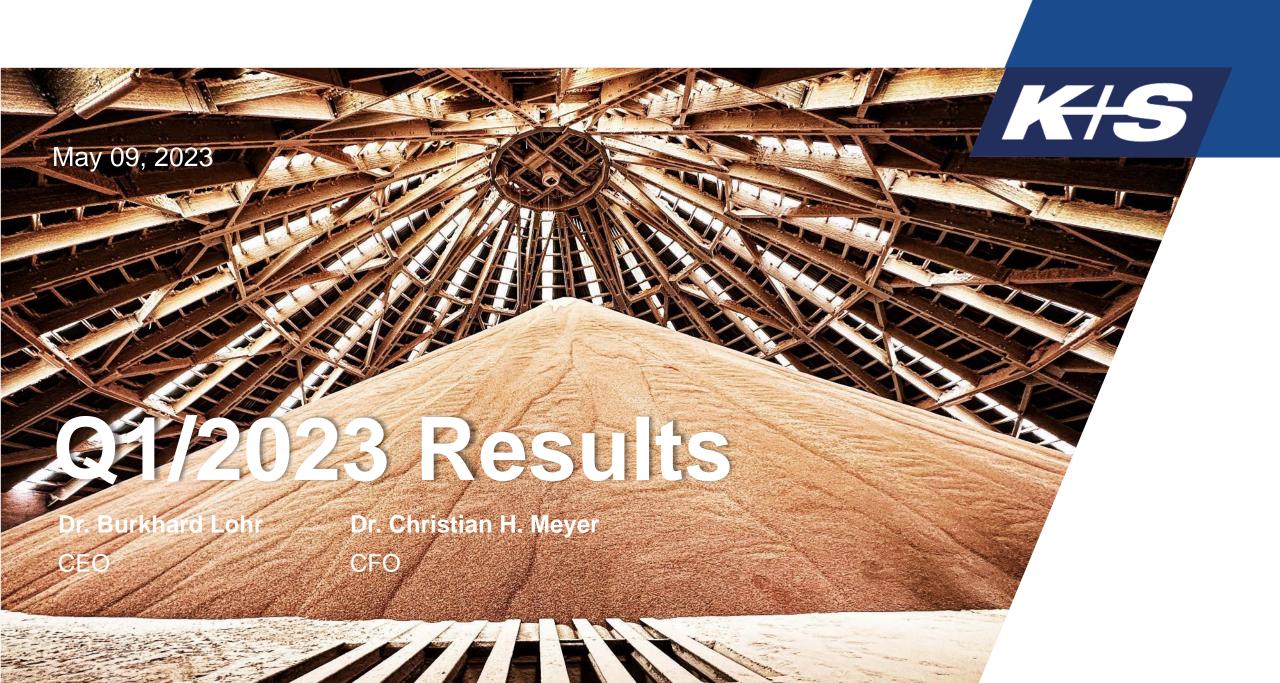
### Capital Markets Conferences

**Dr. Burkhard Lohr** CEO

Julia Bock, CFA
Head of IR

Dr. Christian H. Meyer CFO

Nathalie Frost Senior IR Manager Esther Beuermann, MBA IR Manager



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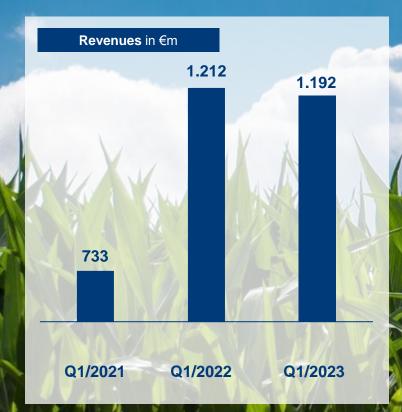
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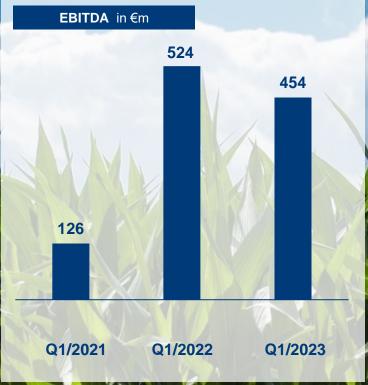
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### Good start into 2023 after record 2022...



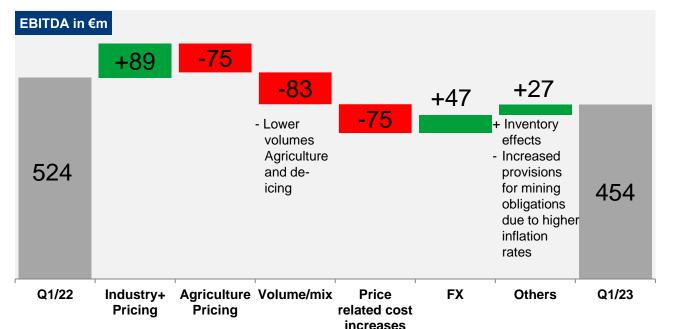




### Q1/23 EBITDA decreased YoY

### **Highlights**

- Q1/23 EBITDA at €454m (Q1/22: €524m)
- Moderately lower average selling prices and slight declines in sales volumes due to delayed deliveries in view of continued tight logistics and a persistent wait-and-see attitude on the part of customer
- Q1/23 adj. FCF at €113m (Q1/22: €103m) incl. inflation compensation premium and energy prepayments (total: mid double-digit million amount)
- Trade receivables at end of Q1/23 on unusually high level



### **Financials**

€ million	Q1/2022	Q1/2023	%
Revenues	1,212	1,192	-2
t/o Agriculture	944	861	-9
t/o Industry+	268	331	+23
EBITDA	524	454	-13
Scheduled D&A	101	108	+7
Adj. net profit	313	232	-26
Adj. EPS (€)	1.63	1.21	-26
ROCE (LTM; %)	42	24	_
Operating cash flow	254	221	-13
Adj. FCF	103	113	+10
Capex	49	78	+58
NFD/EBITDA (LTM)	0.4x	_ *	_

<sup>\*</sup> since Q3/2022: net financial asset position

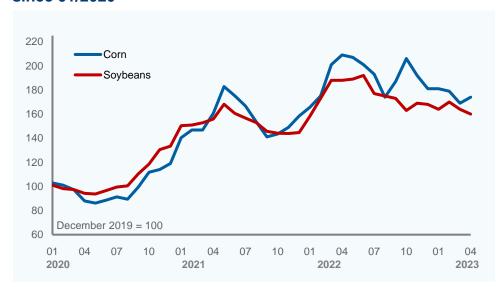
### **ASP** development in Agriculture customer segment

		2021	Q1/22	Q2/22	Q3/22	Q4/22	2022	Q1/23
Revenues	€ million	2,272.1	944.1	1,244.2	1,162.8	1,114.6	4,465.6	861.4
Europe	€ million	950.9	349.9	543.0	372.0	406.8	1,671.6	340.1
Overseas	USD million	1,562.5	666.5	746.5	796.3	722.3	2,931.6	559.3
Potassium chloride	€ million	1,349.3	625.3	849.2	779.5	722.5	2,976.5	545.6
Fertilizer specialties	€ million	922.8	318.8	395.0	383.3	392.1	1,489.2	315.8
Sales volumes	million tonnes eff.	7.62	1.79	1.87	1.56	1.89	7.11	1.73
Europe	million tonnes eff.	3.23	0.76	0.84	0.55	0.66	2.81	0.62
Overseas	million tonnes eff.	4.39	1.03	1.03	1.01	1.23	4.30	1.11
Potassium chloride	million tonnes eff.	4.69	1.11	1.18	0.95	1.20	4.44	1.10
Fertilizer specialties	million tonnes eff.	2.94	0.69	0.69	0.61	0.68	2.67	0.63
Average price	€/tonne eff.	298.0	527.0	663.9	744.5	592.2	628.1	498.9
Europe	€/tonne eff.	294.4	462.1	640.7	675.9	617.7	594.1	548.3
Overseas	USD/tonne eff.	356.0	644.3	727.2	787.3	585.6	682.4	505.6
Potassium chloride	€/tonne eff.	287.9	565.3	718.9	822.7	602.1	670.4	496.0
Fertilizer specialties	€/tonne eff.	314.2	465.0	570.2	623.9	576.6	557.8	504.0

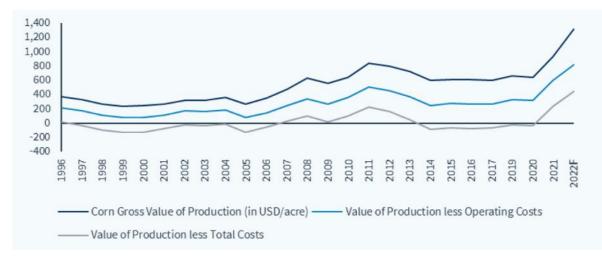


# Low stocks-to-use ratios and unfavorable climate around the world keep agricultural commodity prices up and farmer profitability at high level

### Price development of important agricultural commodities since 01/2020



US corn farmer profitability in USD/acre since 01/1996



Source: USDA, Kepler Cheuvreux

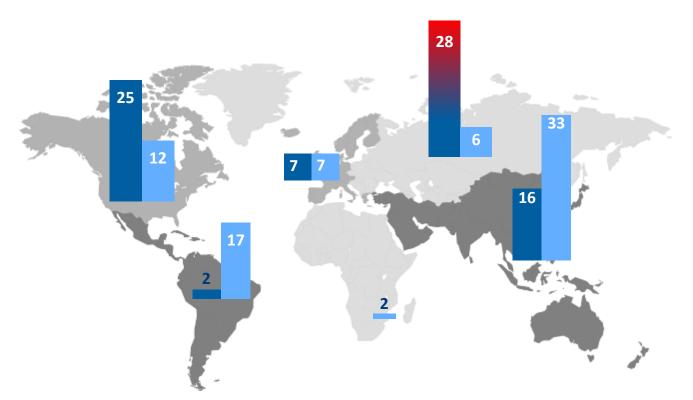
Source: Worldbank



- Sharp increase in crop prices significantly exceeds higher input costs; leading to farmer profitability at all-time highs in some regions
- Potash expenses account for only ~5% of total input costs

### World potash production and sales volumes by region

#### in million tonnes



- Even before limitation of Russian exports and sanctions against Belarus, the potash market was fully used at capacity limit.
- Russia and Belarus each account for approx. 16% of global potash production.
- Most of the capacity expansion projects came from Russian potash producers.
- 28% of global wheat exports come from Russia and Ukraine.

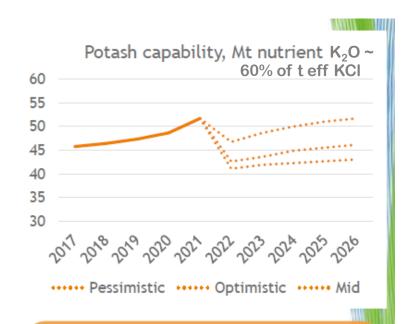
	2020	2021	2022E*
World potash production	75.3 mt	77.9 mt	
World potash sales volume	77.3 mt	77.0 mt	~64 mt

Sources: IFA 2021, K+S

Basis: Year 2021 – incl. Potassium sulphate and low-grade potash

<sup>\*</sup> IFA figures for 2022 will be published in summer 2023; 2022: K+S estimate

### World potash supply according to IFA: Geopolitical effects



#### Potash

Scenarios skewed to the downside based on sanctions and likely ability to export

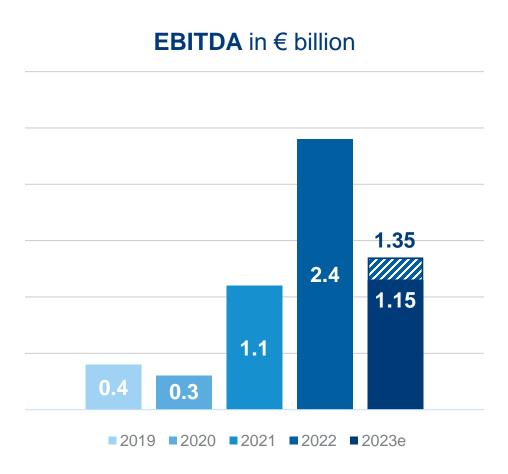
Source: IFA, May 2022

- Russia exports about 2/3 to "friendly countries"
- More than 80% of the currently forecasted expansion of potash production comes from Russia
- Different assumptions for the recovery of the world's potash supply
  - Pessimistic scenario: Extended conflict, Western sanctions are extended, USD sanctions are also spreading to some "friendly countries"
  - Mid-scenario: All current sanctions remain in force but some "friendly countries" resume/continue partial trade with Russia
  - Optimistic scenario: Soon resolution, economic sanctions will be eased, Russian exports will mostly recover, Belarusian exports will partially recover



Even in the optimistic case, global potash supply will not return to the level of 2021 before 2026

### 2023: Very good full-year figures expected again



- 2023 EBITDA expected to range between
   €1.15 billion and €1.35 billion
- Adjusted free cash flow expected to range between
   €650 million and €850 million, based on a mid triple-digit million euro amount of capex
- Agriculture customer segment:
  - Tangible decrease of average price below
     Q1/23 incorporated in guidance (Q1/23: 499 €/t)
  - Relief in logistical constraints compared to 2022 should lead to an increase of sales volumes to 7.2mt to 7.4mt (2022: 7.1mt)
- Inflation-related cost increases of a low triple-digit-million-euro amount, mainly for energy, logistics, personnel, and materials



## Planned use of additional liquidity

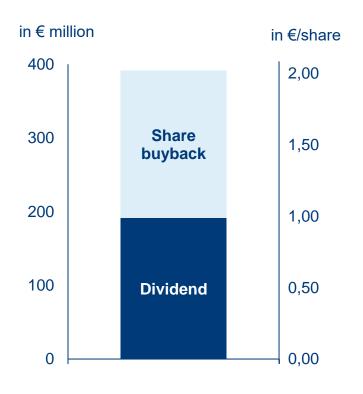
- Participation of shareholders for the 2022 financial year
  - → €1.00 dividend per share and
  - → additional share buyback of up to €200m (about €1.00 per share)
- Investment in optimizing our existing business (Bethune, Werra 2060)
- Securing crisis-proof balance sheet and liquidity position (war/energy)
- Further development of our specialty portfolio in our existing business areas
- Energy transformation

#### Already done in 2022:

- Dividend payment for the 2021 financial
- Repayment of factoring
- Purchase of CO<sub>2</sub> certificates for the rest of the trading period
- Repayment of bond in 06/2022 and 01/2023

### Shareholder's participation in the Company's success

### Combination of dividend payment and share buyback



#### **Total distribution**

Dividend €191.4 million

Share buyback up to €200.0 million\*

- b up to €391.4 million, respectively about €2 per share
- ► this equals > 40% of the adj. Free Cash Flow 2022

We announced our dividend policy in the strategy published in 2021. This provides for a basic dividend of 15 cents per share, with the possibility to be increased by a discretionary premium in the event of good economic development. At the time this dividend policy was set, the focus was on rapidly reducing the Company's debt, securing its financing capability, and creating a solid balance sheet. Following the sale of the OU Americas, net financial liabilities were still in the higher triple-digit million euro range and, at the potash price level at the time, debt reduction would have progressed much more slowly. Since the business development in 2022 has already had the effect for K+S to report a net asset position, we will revise the distribution policy for future decisions on shareholders' participation in the success of the Company.

<sup>\*</sup> At K+S share closing price on 13 March 2023 of €20.38, this would result in a share buyback of up to about 5% of the share capital. To start after AGM 2023 and to last until end of February 2024, at the latest.

### Housekeeping items / Financial calendar

#### Additional information on 2023 FY outlook – continuing operations

■ Tax rate: 30%

CapEx: mid triple-digit million (2022: €404m)

Cash interest: ~ €-20m (2022: €-53m)

■ D&A: ~ €450m

Financial calendar	
AGM, virtual	May 10, 2023
Roadshow, Frankfurt – CEO, CFO	May 16, 2023
BMO Conference, New York – CEO, CFO	May 17, 2023
Citi's European C-Suite Chemicals Conference, virtual – IR	May 17, 2023
Bernstein Annual Agriculture Conference, virtual – IR	May 22, 2023
The Nice Conference, Nice – IR	June 1, 2023
Warburg Highlights, Hamburg – CEO, CFO	June 15, 2023
dbAccess, Frankfurt – CEO, CFO	June 20, 2023
Chemical Roadshow, North America, Baader Bank – IR	June 27-29, 2023

### **Investor Relations Contacts**



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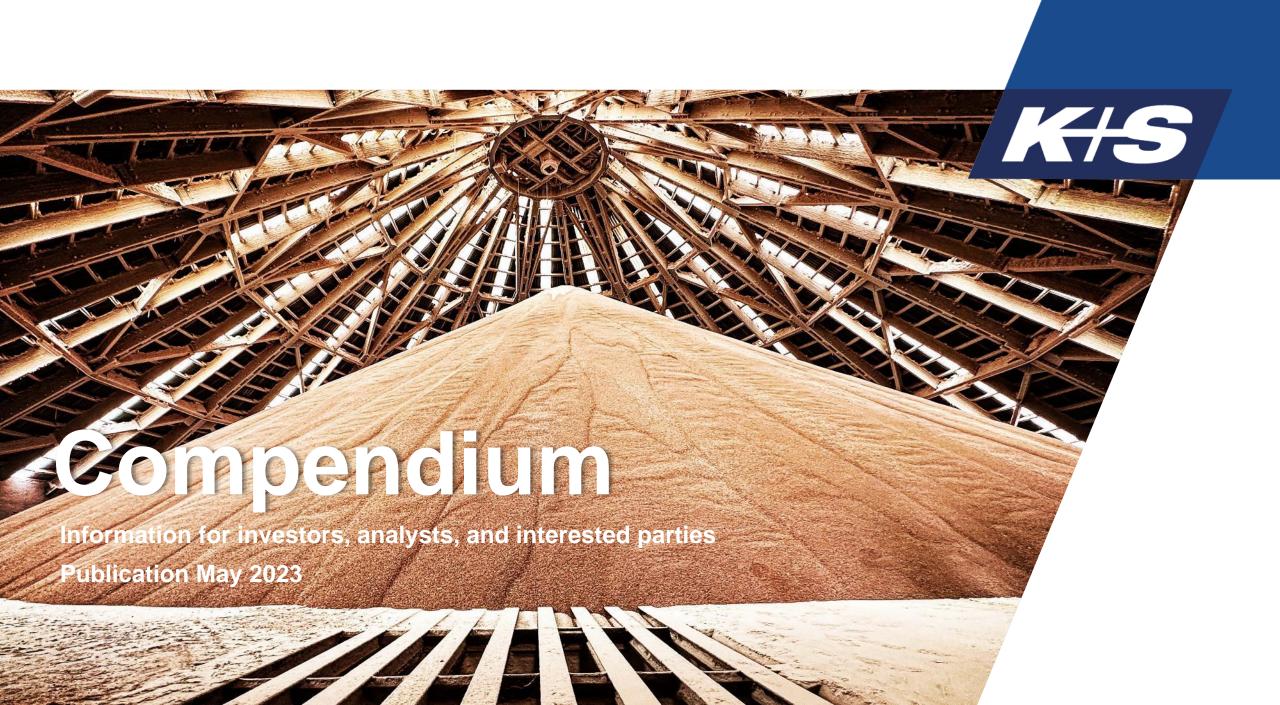
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### **K+S Conspect**



The roots of the K+S Group date back to the **middle of the 19th century**. At that time, miners in Germany exploited the world's first potash deposits and started fertilizer production.

Today, the K+S Group is an internationally oriented raw materials company with production sites in Europe and North America.



#### K+S Group financials Q1/2023

**Revenues EBITDA** €1,192.0 million €453.8 million

Adjusted free EBITDA margin 38.1%

€113.2 million





K+S strives for **sustainability** and acknowledges its responsibility towards people, the environment, communities, and the economy in the regions in which it operates.

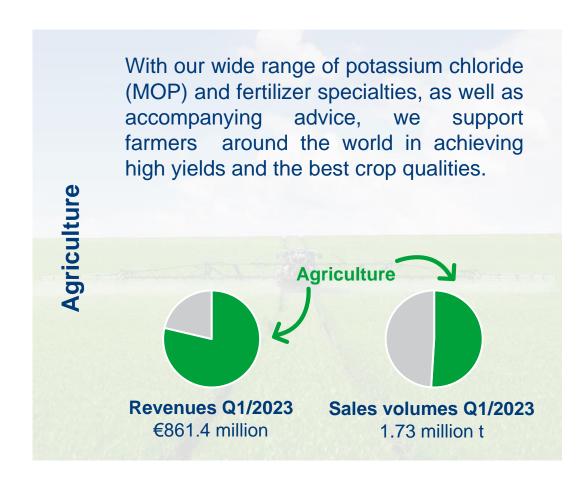
The claim is to enrich life for generations and to be a pioneer for environmentally friendly and sustainable mining.





### K+S at a glance

#### **Customer segments (no segments according to IFRS)**





### Sale of the OU Americas in 2021

### **Key data of the signed agreement**

Buyer Stone Canyon Industries

Holdings LLC, Mark
Demetree and Partner

Gross proceeds USD 3.2 billion

**EV/EBITDA** 12.5x 2019 EBITDA of

USD 257 million

Closing April 30, 2021

**Net proceeds** €2.6 billion after tax

**Preliminary gain on** €742 million disposal



### Important megatrends and their implications



Global population in 2030 Today: 8.0 billion

40%

of the population suffers from water scarcity in 2030

**70%** of water used for agriculture



0.2 °C

Average global warming per decade

2/3 of the world's population

belong to the middle class in 2030
2015: 14% of the
world's population

#### Implications for K+S

- Arable land shrinking
- Yield needs to be improved
- Higher efficiency of fertilization and irrigation needed
- Plants have to be more stress resistant
- Infrastructure needs to be improved
  - → focus on renewable energy
- Growing population, especially in Asia, needs more salt for various purposes

Sources: United Nations, 2017; World Population Clock of the Deutsche Stiftung Weltbevölkerung (dated July 2022); "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

### Why use fertilizers?

### "The Natural Laws of Husbandry", Justus von Liebig, 1863

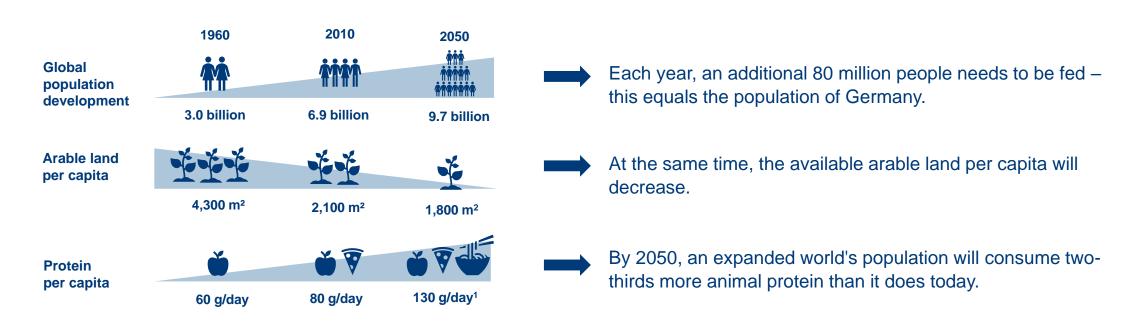


"The growth and yield of a plant is limited by the nutrient available in the smallest amount."

- Plants need sunlight, water, and minerals 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**.

### Long-term key drivers for our fertilizer business

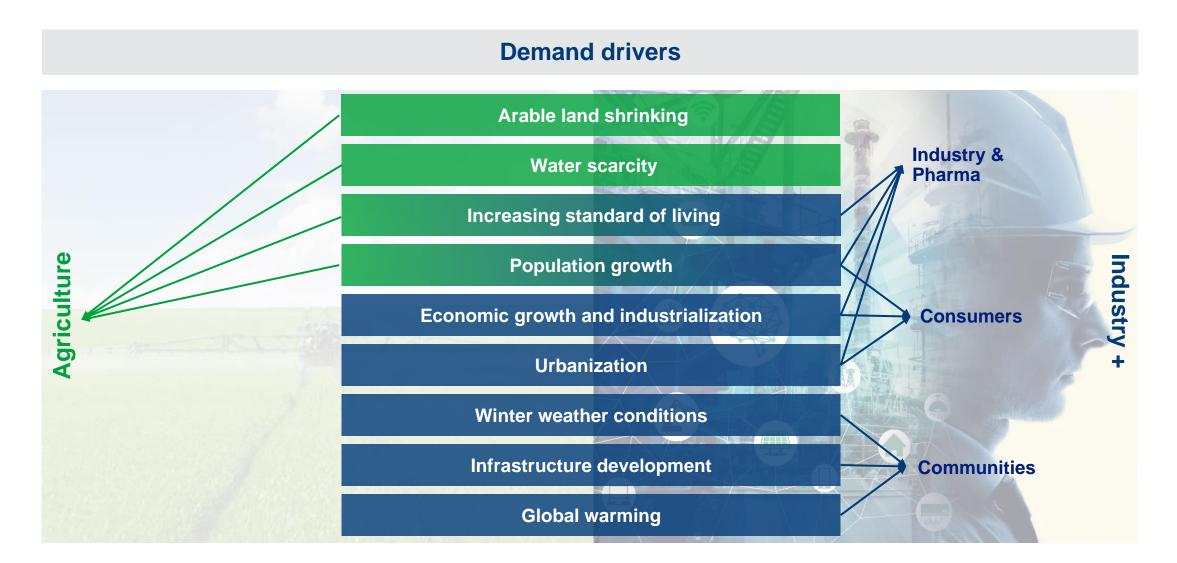
#### Less arable land – but more protein consumption per capita



In 2050, only roughly 25% of a soccer field will be available for a person's annual food supply – 80% 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, 2022 Revision, UNDP, 2013; FAOStat 2014; 1 FAO 2014 - Forecasts based on expected increase in animal protein

### Long-term demand drivers



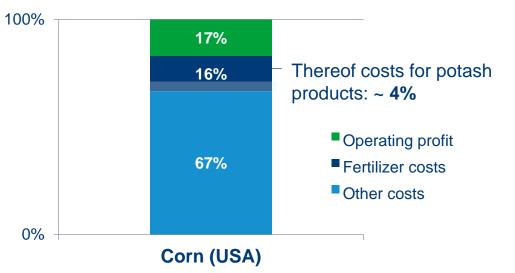
### Farmer profitability of corn (USA)

### Expenditure for potash products of an agricultural farm: approx. 4% of the total cost



The earnings prospects should give the agricultural industry sufficient incentive to increase the yield per hectare by using plant nutrients.

#### **Profit potential in % of revenues**



### **Board of Executive Directors**



**Dr. Burkhard Lohr**Chief Executive Officer
Mandate until May 31, 2025



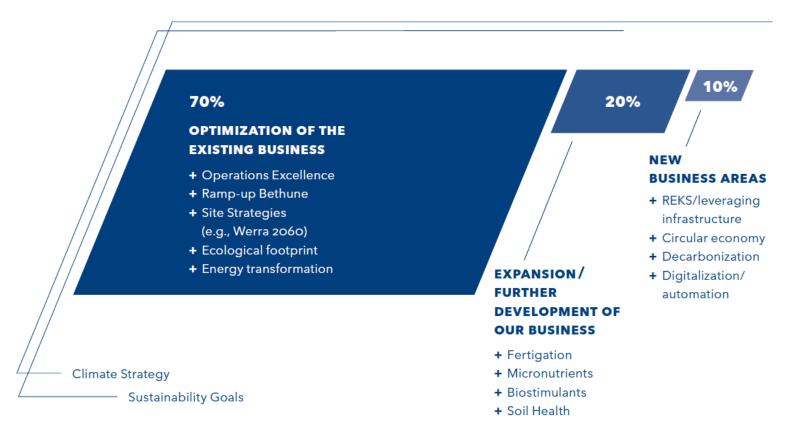
**Dr. Christian H. Meyer**Chief Financial Officer
Mandate until March 14, 2026



**Dr. Carin-Martina Tröltzsch**Member of the Board
Mandate until February 19, 2026

For current information on the responsibilities of the individual members of the Board of Executive Directors, please refer to our bylaws which can also be found on the K+S website at: <a href="https://www.kpluss.com/en-us/about-ks/board-of-executive-directors">www.kpluss.com/en-us/about-ks/board-of-executive-directors</a>

### Guiding principles of strategy and management focus



#### **Financial ambitions**

- Earn cost of capital over a 5-year cycle
- At the same time, an EBITDA margin of > 20% is aimed for over this cycle
- Maximum accepted leverage (net debt/EBITDA), also on the low end of the cycle: 1.5x



### Optimize the existing

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

#### **Agriculture**

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

#### Industry+

- 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
- Improved use of infrastructure

#### **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 & production volumes
- Optimization of maintenance
- Increase in energy efficiency
- Increase in granulation capacity for potassium sulphate



#### **Neuhof-Ellers**

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





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

### Werra 2060 – Securing a sustainable future

70 %

#### How do we want to achieve this?

Innovations in extraction and production

- Unterbreizbach and Wintershall sites: Focus on wastewater-free processing methods
- Unterbreizbach mine: Expansion of secondary mining operations (drill and blast)
- Hattorf-Wintershall mine: Introduction of secondary mining (drill and blast)
- Unterbreizbach and Hattorf-Wintershall mines: Dry backfill utilization
- Hattorf plant: Continued operation unchanged for the time being

Methods already tested or in use on other sites!

Future-oriented product portfolio

- New processing methods in Unterbreizbach and Wintershall have an energy-saving effect with CO<sub>2</sub>-reduction, and also change the product portfolio:
- Further development of specialties portfolio with unchanged production volumes
- Increase in share of round granules
- The products become more competitive under cost, sustainability, and quality criteria.

Reduction in environmental impact

Reduction solid residues:
by 8 to 7 million t eff. p.a.

▶ avoiding tailings pile expansion
Wintershall beginning of the 2030s

CO<sub>2</sub> emissions reduced by 190kt to 650kt p.a.; Reduced steam requirement: higher flexibility regarding the energy source



### Value contribution of Werra 2060

70 %

	NPV drivers	Ø FCF advantage p.a. 2026-2060
Significantly higher and more stable production over time/changed product mix	+€100m	+€45m
<ul> <li>ESG improvements</li> <li>Reduction of solid residues and thus avoiding tailings pile expansions and enabling backfill and secondary mining</li> <li>Reduction of CO<sub>2</sub> emissions</li> <li>Reduction of saline process waters and thus reducing remote disposal</li> </ul>	- +€425m	+€40m
Mid-term adjusted personnel requirement	+€275m	+€25m
Present value of additional capex compared to unchanged operation mode	-€275m	
Total	>~500€m	+~€110m

### We create value for our stakeholders!

70 %

### Werra 2060 increases site NPV by > €0.5 bn to > €1.5 bn





with Werra 2060 project

> €1.5 billion or 7.80 €/share



Even an eternal price of ~330 \$/t (MOP Brazil) after 2026 results in NPV of more than €1 billion.



Even 50% higher initial capex would still result in NPV advantage of more than €300 million.

Sensitivities

Variation of MOP Brazil price after 2026:

+/- 10 \$/t

**Change in NPV** 

+/- ~ €150 m

### **Grow the core**

#### We enable farmers to achieve greater economic success



#### **Expansion of the portfolio**

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

#### **Logistic access**

- Circular economy
- Last Mile Distribution

#### **Digital sales**

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

### **New business areas**

#### Subsequent use of existing assets and development of new business areas

#### Renewable and green energy

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

#### Waste management and circular economy

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

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

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

#### Reuse of our mines

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

Mines

Caverns

**Tailings piles** 

Land

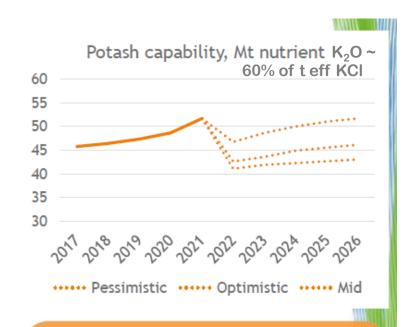
Technical/structural infrastructure

Technological know-how

Agronomic know-how



# World potash supply: Geopolitical Effects



#### Potash

Scenarios skewed to the downside based on sanctions and likely ability to export

Source: IFA, May 2022

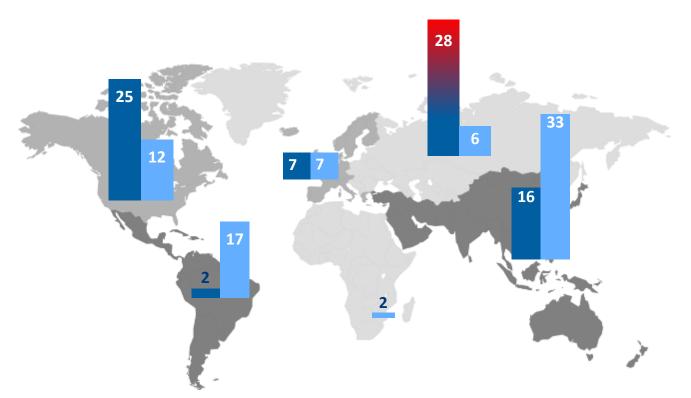
- Russia exports about 2/3 to "friendly countries"; 1/3 go to "unfriendly countries"
- More than 80% of the currently forecasted expansion of potash production comes from Russia
- Different assumptions for the recovery of the world's potash supply
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Even in the optimistic case, global potash supply will not return to the level of 2021 until 2026

# World potash production and sales volumes by region

#### in million tonnes



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- Russia and Belarus each account for approx. 16% of global potash production.
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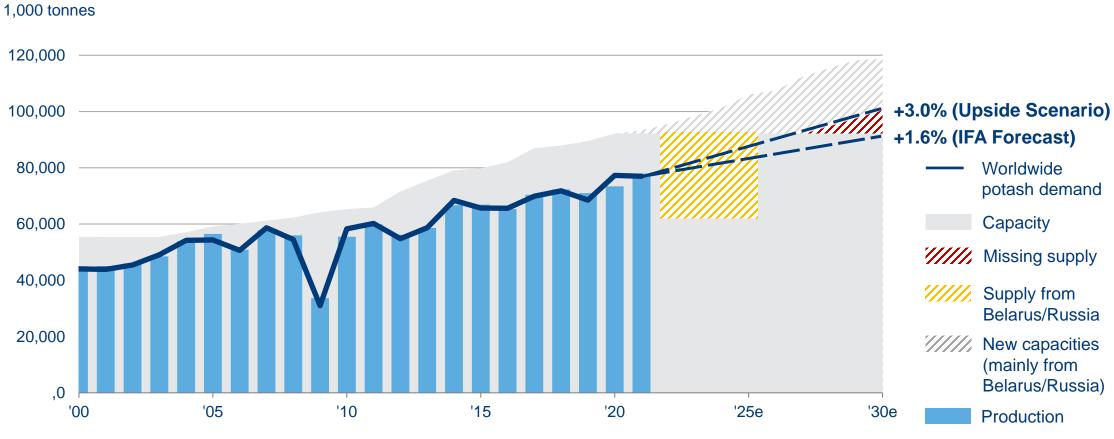
**Basis:** Year 2021 – incl. Potassium sulfate and low-grade potash \* IFA

Sources: IFA 2021, K+S

<sup>\*</sup> IFA figures for 2022 will be published in summer 2023; 2022: K+S estimate

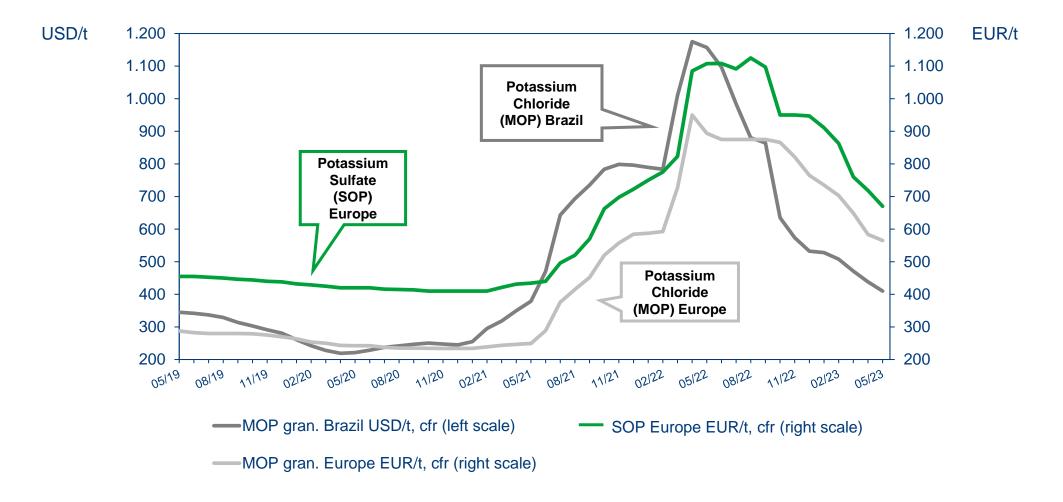
# Increasing demand for potash

## New potash capacities needed to meet rising demand



Source: IFA, K+S; including potassium sulfate and low-grade potash of about 5 million t eff. (product)

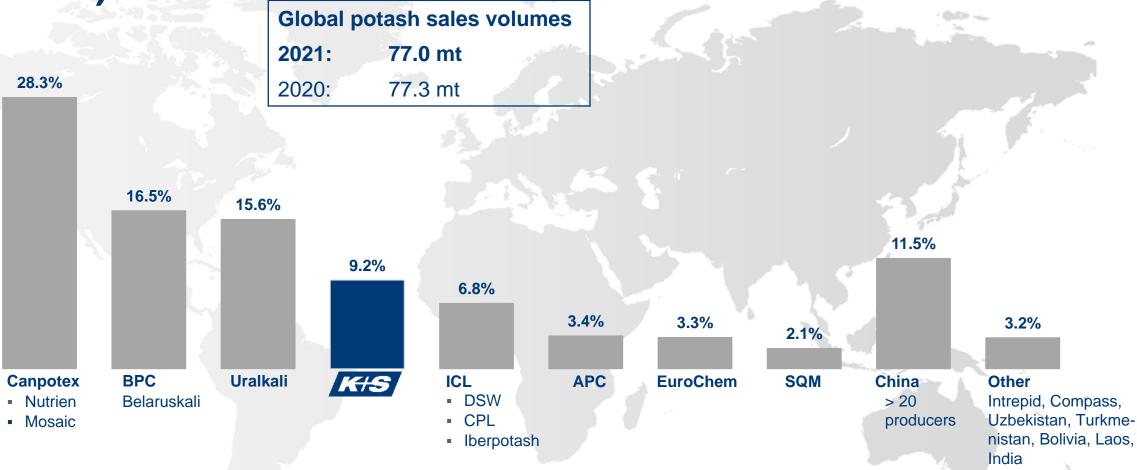
# Potash price development



Source: FMB Argus Potash

Supplier structure on the global potash market (until

2021)



Source: IFA 2021, K+S

**Basis:** Year 2021 – incl. Potassium sulfate and low-grade potash

# Between desire and reality

## Classification of potash projects announced since 2006 (Greenfield)

**Announced projects** 

Various greenfield projects planned in Thailand, Laos, Russia, Kazakhstan, Uzbekistan, Belarus, Canada, USA, Brazil, and Argentina, among others. Companies involved include BHP Billiton, K+S, state-owned companies, and new, start-up companies.

Reasons for project cancellation



Current projects in ramp-up

K+S accelerates annual ramp-up at Bethune to 150,000 t (2022: good 2 million t, target: 4 million t per year).

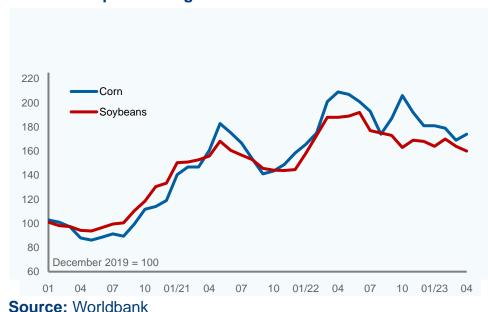
Since H1/2020, EuroChem has been producing potash at one of two Russian mines.

Source: World Potash Developments, Mark D. Cocker & Greta J. Orris, 2012

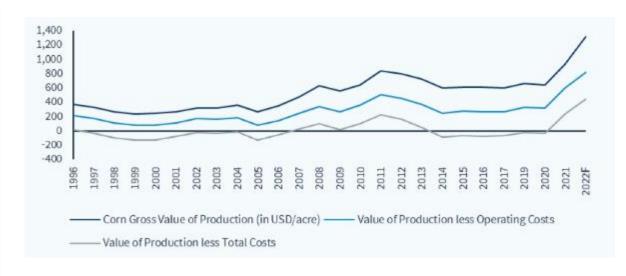
# **Continued positive environment**

## Farmer profitability at historically high level

#### Price development of agricultural commodities since 01/2020



#### US corn farmer profitability in USD/acre since 01/1996

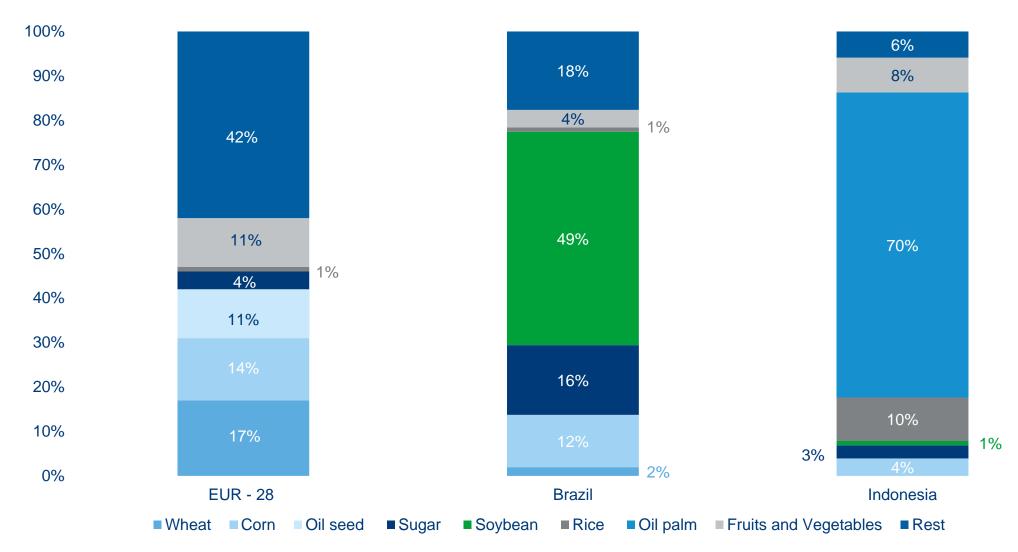


Source: USDA, Kepler Cheuvreux



- Sharp increase in crop prices significantly exceeds higher input costs; leading to farmer profitability at all-time highs in some regions
- Potash costs only account for ~5% of total input costs

# Potassium use by crop in selected countries



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



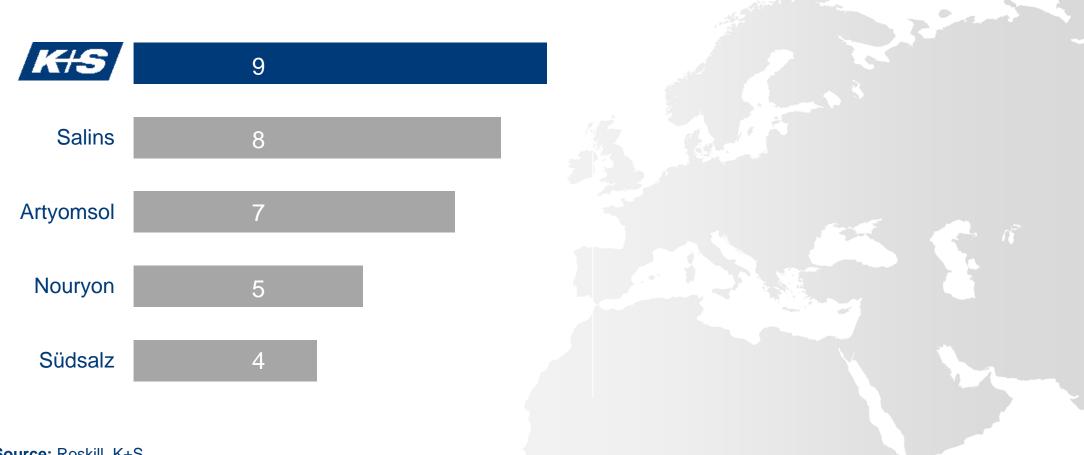
# Global potash sales volume by region

million tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Western Europe	5.6	5.8	6.2	6.0	5,9	6,2	6,2	6,0	6.2	6.5
Central Europe/FSU	5.1	4.7	4.4	4.8	4.8	5.2	5.4	5.5	5.6	6.2
Africa	0.7	0.8	1.0	1.0	1.1	1.4	1.6	1.4	1.6	1.9
North America	9.1	9.7	11.8	9.5	10.9	11.2	11.5	9.8	11.7	12.4
Latin America	10.5	11.0	11.9	11.5	12.2	12.7	13.7	13.5	15.8	17.2
Asia	23.4	26.2	32.4	32.3	30.1	32.5	32.6	31.6	35.7	32.0
- thereof China	12.0	13.8	16.7	18.5	16.2	16.2	16.3	17.8	19.5	16.3
- thereof India	2.8	3.5	4.5	4.1	4.0	5.0	4.5	4.5	5.4	3.3
Oceania	0.4	0.5	0.7	0.6	0.6	0.7	0.8	0.7	0.7	0.8
World total	54.8	58.7	68.4	65.7	65.6	69.9	71.8	68.5	77.3	77.0

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

# Supplier structure on European salt market

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

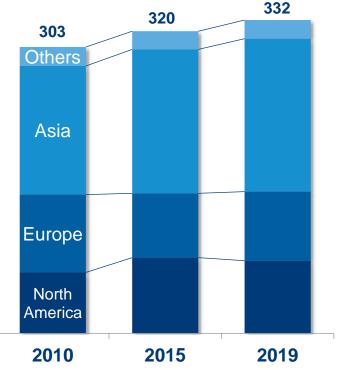


Source: Roskill, K+S

# Development of salt consumption and production

## **Consumption (in million tonnes)**

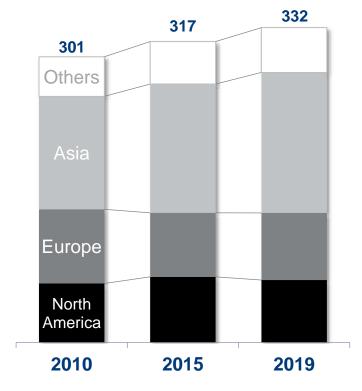
Between 2010 and 2019, global consumption increased by about 0.90% yoy to a record 332 million t.



Source: K+S, Roskill

## **Production (in million tonnes)**

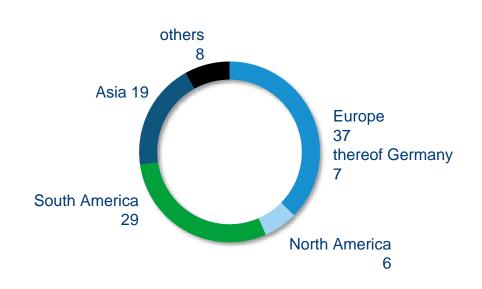
World production reached a record of more than 330 million t in 2019. It increased by an average of 1% yoy between 2010 and 2019.





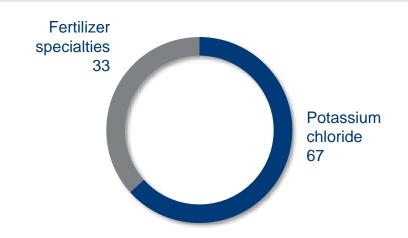
# Agriculture customer segment at a glance

## Revenue split by region 2022 (%)



in € million	Q1/2022	Q1/2023
Revenues	944.1	861.4
Sales volumes (mt)	1.79	1.73

# Revenue split by products Q1/2023 (%)



### **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

# What makes us different?

## Our ingredients of natural origin

## Soil fertilizer Korn-Kali® Our all-rounder – for your most different applications Korn-Kali Our all-rounder – for you also now with boron Roll-Kali Our potash fertilizer – the perfect partner for your fertilizer mix 60. Kali<sup>®</sup> Our potassium chloride – your first choice Our specialist – for your healthy forage production Magnesia-Kainit® Our top quality – for your specialty crops KALISOP' Our rolled granulate – for wide, precisely distributed application Our formula for success – for the highest quality for your crops **Patentkali®** Our highly concentrated – magnesium sulfur power for plants ESTA® Kieserit

# Foliar and liquid fertilizers EPSOTop The basic ingredient for foliar fertilization EPSOMicrotop ✓ Our specialist for root and leaf crops EPSOCombitop ✓ Our specialist for health and quality EPSOBortop ✓ Our specialist for rapeseed and sugar beet EPSOProfitop ✓ Our specialist for all your grain Our frost professional - for your winter yield security Solusop 52 ✓ Our perfect source - potassium and sulfur for your crops

Further information: www.kpluss.com/fertilizer





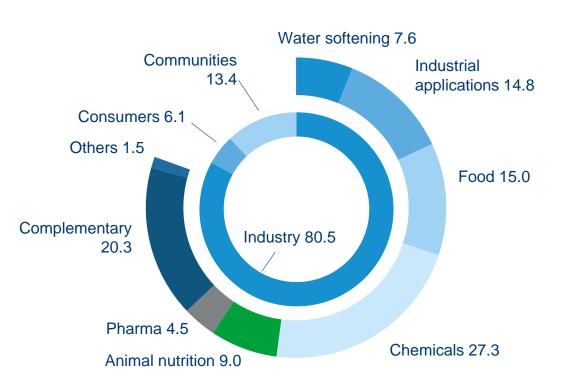
# Industry+ customer segment at a glance

#### **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.

€ million	Q1/2022	Q1/2023
Revenues	268.2	330.6
Sales volume (mt)	1.83	1.79
- thereof: de-icing	0.61	0.59

## Revenue split by products Q1/2023 (%)



# Main areas of application

#### Chemical

- Chlor-Alkaliprocesses (PVC)
- Polycarbonates and MDI (isocyanate) (plastics, synthetic resin)
- Synthetic Soda ash (glass)



#### **Animal nutrition**

- Animal feed
- Lick blocks



#### Food processing

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



#### Water softening

- Water softening
- Water treatment



#### Pharma

- Infusions, dialysis solutions
- Pharmaceuticals



#### Complementary

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



#### Oil and Gas

Drilling fluids



- Dyeing works
- Leather treatment







# 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 K+S Group wants to be the preferred partner of its customers in the market. High product quality and reliability are crucial prerequisites for this. K+S offers a comprehensive range of services for agriculture, industry, and private consumers.

**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.

# Underground mining production cycle

# **Conventional mining**

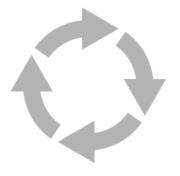
























# Main production methods

#### **Rock salt**

Conventional mining



#### Sea/solar salt

Crystallisation of sea water



## **Evaporated salt**

Recrystallization of purified brine



#### **Brine**

Controlled solution mining



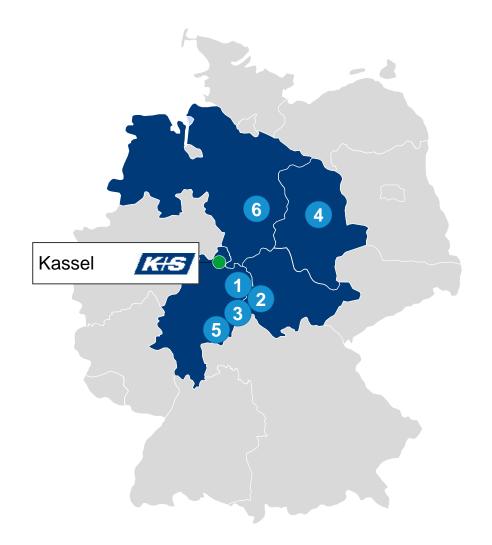
- Around 70% of worldwide salt production (more than 290 million tonnes including brine) is obtained from rock salt mining and solution mining.
- Approximately 30% of production is obtained from seawater and salt lakes.
- Salt is produced in almost every country in the world. Due to the high share of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

# **Potash sites in Germany**

## **Share of annual production capacity (in %)**

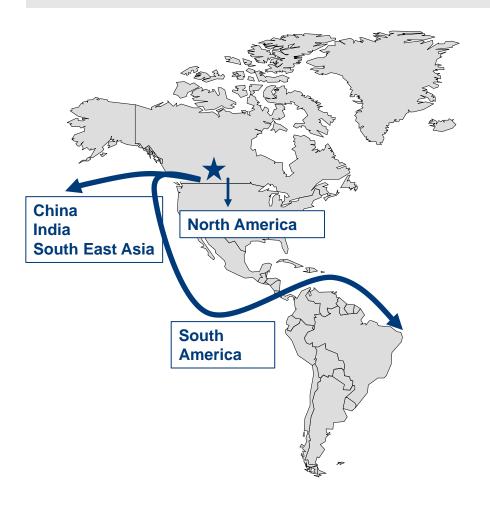
Wintershall
 Unterbreizbach
 Hattorf
 Zielitz
 Neuhof-Ellers
 Bergmannssegen-Hugo

(production site, no mining)



# K+S in Kanada: Bethune

## **Strengthening our global presence**



- Expanding our current production portfolio in Germany with a North American production site
  - → Only supplier with production on two continents
- 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

# **Bethune – Solution Mining**

## **Procedure (Primary Mining)**

Mining technique	Solution Mining
Depth	1,500 meters
Thickness	33 meters
K <sub>2</sub> O / KCI Content	18% / 29%

- 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.
- This brine is then evaporated in the factory and processed into potash products. The water obtained during evaporation is recirculated back into the caverns.





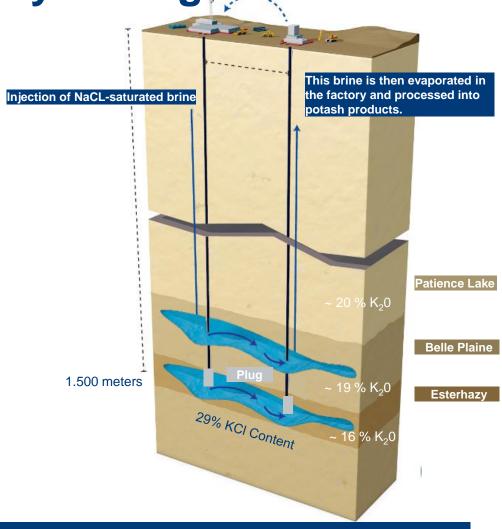
Bethune - Primary vs. Secondary Mining

## **Secondary Mining**

Secondary mining uses exclusively saturated NaCl solution to selectively dissolve residual KCl from existing caverns.

## Advantages (in comparison to primary mining)

- Less energy-intensive (e.g., the solution is heated by residual heat from the evaporators and KCl crystallizes by natural cooling in outdoor ponds)
- Significantly more water-efficient
- Reduces salt to be piled up to by 30%

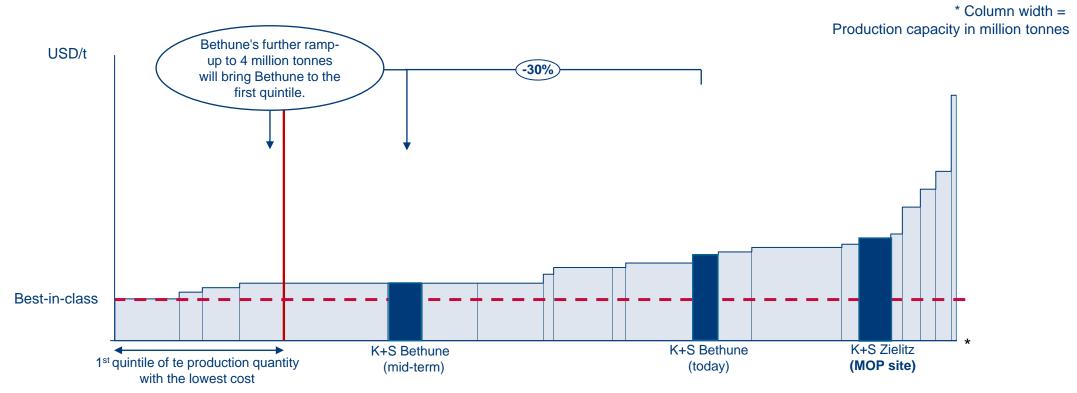




The production costs for NaCl solution mining are 50% of the production costs of primary mining.

# Site costs (at mine gate) in comparison

## Ramp-up of Bethune as well as measures to optimize the portfolio business

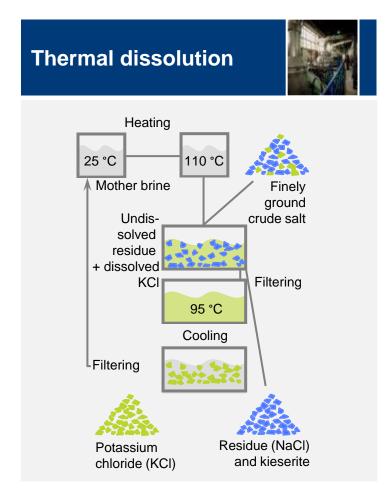


Source: CRU Report 2019, K+S

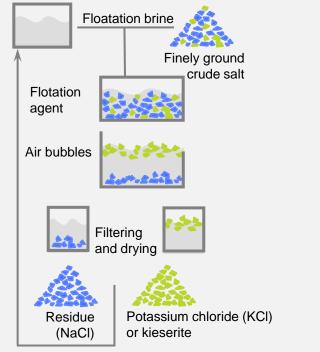


Increasing improvement in cash costs and competitive position

# Potash processing above ground

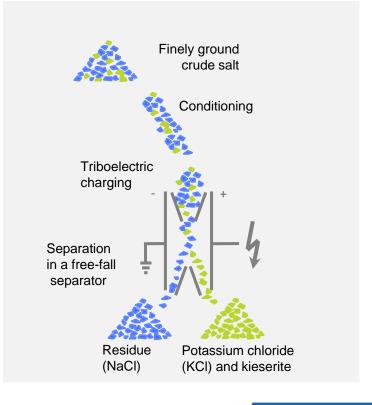






# **Electrostatic separation** (ESTA®)



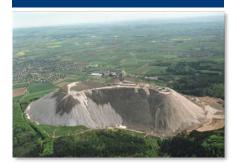


# Potash production: management of residues

Rock salt: only a limited share of usable material; residue accumulation is unavoidable...

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% ~8% ~3%

<sup>\*</sup> 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.

# **Green investments = 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
- Future: 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

# Tailings pile coverage and greening

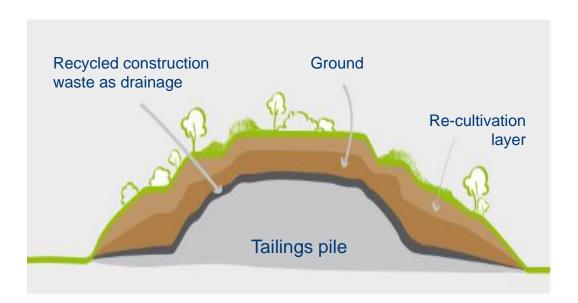
## **Our objectives**

- 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.



# Tailings pile and process water at the Werra site

## **Development of saline wastewater**

Reduction of saline wastewater based on various measures within the last 25 years:

- Underground disposal in Unterbreizbach
- Optimization of production and manufacturing processes
- ESTA facility, cold preliminary decomposition and high consistency facility, kainite crystallization and MgCl2 facility
- Establishment of a kainite crystallization and flotation facility; advantage: additional product

## Additional ways of disposing saline wastewater

- 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 caverns for their restoration.
- As part of our strategy and the optimization of our existing business, the focus at the Werra site will be on reducing solid and liquid residues as well as energy consumption and therefore CO<sub>2</sub> emissions.

#### **Disposal of saline wastewater Utilization/Avoidance** (CapEx: almost €500 million) Further No discharge reduction of of process tailing pile water into the and process Werra as of 20 million cbm 2028 water No deep-well injection as of 2022 6,5 million cbm Saline Waste-water Saline Waste-water Disposal until 2027 Disposal as of 2028 1997 2021 Remote flooding of abandoned mines or caverns and temporary storage underground as of 2022: permanent storage underground (subject to approval); as of 2028: higher utilization of storage underground with additional processing Discharge Werra <sup>2</sup> in compliance with the target values of the FGG Weser as of 2028: only tailing pile water <sup>1</sup> Including Neuhof

<sup>&</sup>lt;sup>2</sup> Further reduction and avoidance of tailing pile water targeted by covering tailings piles; continuing R&D developments with external partners, among others

# **Underground storage in Springen**

## Our objective

- Our first goal of discontinuing the injection of saline wastewater into the plate dolomite as of 2022 has been accomplished.
- Discontinuing 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 m³ 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.



# **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**

## **Germany compared to K+S** (German potash production, Scope 1) K+S -79 % Values in million t CO<sub>2</sub> DE -40 % 1.248 **100** % 80 Germany 739 60 40 20 0 1990 2020

# **80% of CO<sub>2</sub> emissions already reduced (1990 – 2020):** Through fuel change, increased energy efficiency and site closures.

## **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 internationally achieved with a supportive regulatory framework.

K+S calls for fair competitive conditions worldwide (this requires carbon leakage protection), sufficient and resilient energy **infrastructure**, **funding** for the conversions and **affordable renewable energies**.

# **K+S Sustainability Goals 2030**

	Goal	KPI	2022	Target value 2030	Base year	Achievement of targets
ety & oyees	Health & Safety	Injury with lost time (LTIR)*	8.3	0 Vision 2030	2017 (11.5)	28%
Society & Employee	Diversity & Inclusion	Positive perception of an inclusive work environment by employees <sup>1</sup>	87%	> 90%	2019 (54.4)	97%
Business Ethics & Human Rights	Sustainable Supply Chains	Percentage of critical suppliers that have acknowledged the Supplier Code of Conduct of the K+S Group*	89.6%	100% end 2025	2017 (0)	90%
		Coverage of the purchasing volume by the Supplier Code of Conduct of the K+S Group*	84.5%	> 90% end 2025	2017 (0)	94%
	Compliance & Anti-Corruption	Coverage of the K+S companies with a standardized compliance risk analysis (was designed 100% in 2020 after achieving the previous target)	66.7%	100% end 2023	2020 (0)	67%

<sup>\*</sup> LTI-relevant (Board of Executive Directors and management)

<sup>&</sup>lt;sup>1</sup> The first survey was conducted in 2019 (different base year), and an updated survey with new questions was conducted in 2022.

# **K+S Sustainability Goals 2030**

	Goal	KPI	2022	Target value 2030	Base year	Achievement of targets
Environment & Resources	Resource efficiency	Additional reduction of saline process water to be disposed of from potash production in Germany (million m³ p.a.)¹	-0.4	-0.5 (excluding reduction by KCF facility and end of production SI)	2017 (0)	82%
		Amount of residue used for purposes other than tailings piles formation or avoided by increasing the yield of raw material (million t p.a.)	0.21	3	2017 (0.2)	7%
		Additional covered tailings piles area	14.1	155	2017 (0)	9%
	Energy & Climate	Absolute CO <sub>2</sub> emissions in the K+S Group worldwide*	-3.0%	-10%	2020	30%
		Specific greenhouse gas emissions (CO2) in logistics (kg CO2e/t)	-13.1%	-10%	2017	100%

<sup>\*</sup> LTI-relevant (Board of Executive Directors and management)

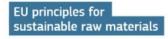
<sup>&</sup>lt;sup>1</sup> Excluding a reduction due to the KCF plant and the end of production at Sigmundshall.

# **K+S Sustainability Management**

Organization	Rating Scale	2020	2021	2022	Development
MSCI 💮	Rating scale from AAA to CCC (A: average)	А	А	AA	<b>⊘</b>
ISS ESG <b>&gt;</b>	Rating scale from A+ to D-	C-	C-	С	7
CDP	Climate: Rating scale from A to D-	С	С	С	$\Rightarrow$
DISCLOSURE INSIGHT ACTION	Water: Rating scale from A to D-	В	В	В	$\bigcirc$
SUSTAINALYTICS a Morningstar company	Rating scale from 0 to 40+ (The lower, the better)	38.8	36.8	35.4	7
Moody's	Rating scale from 0 to 100 (The higher, the better)	45	46		7
FTSE Russell	Rating scale from 0 to 5 (The higher, the better)	2.8	3.2		7







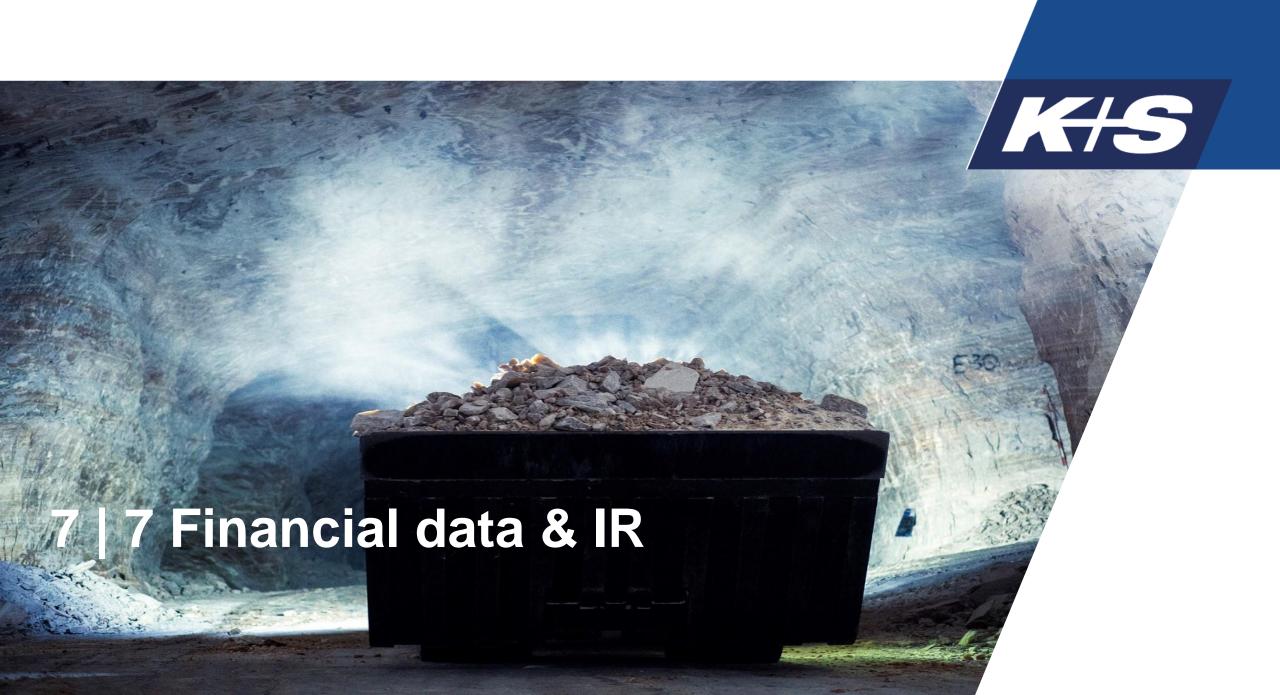




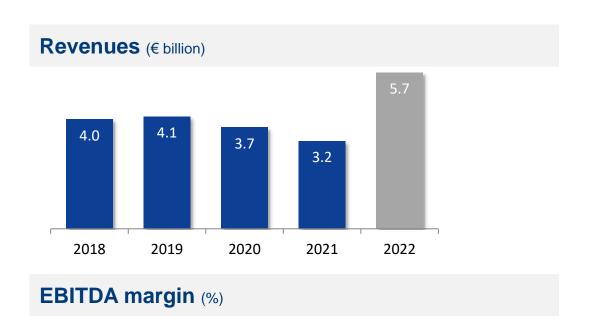


## The contribution of our products to the SDGs



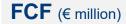


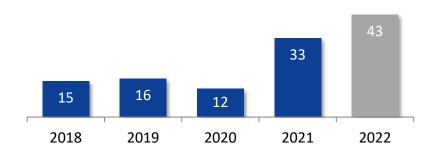
# **Key financial figures**<sup>1</sup>

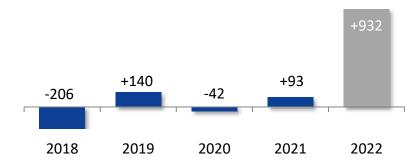


#### EBITDA vs. Net financial liabilities/EBITDA<sup>2</sup>





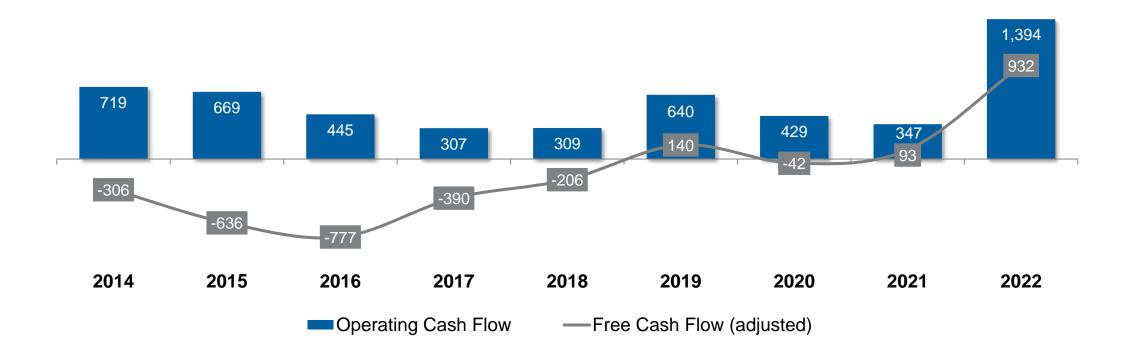




<sup>&</sup>lt;sup>1</sup> The figures relate to the continuing and discontinued operations of the K+S Group for the years 2018 to 2020. For the years 2021 and 2022, the figures relate to the continuing operations of the K+S Group.

<sup>&</sup>lt;sup>2</sup> As of December 31, 2022, there are no longer any net financial liabilities.

# Operating and adjusted cash flow<sup>1</sup>





<sup>&</sup>lt;sup>1</sup> The figures relate to the continuing and discontinued operations of the K+S Group for the years 2014 to 2020. For the years 2021 and 2022, the figures relate to the continuing operations of the K+S Group (in € million).

## **Cash flow and balance sheet**

	FY/21	3M/22	H1/22	9M/22	FY/22	3M/23
Operating cash flow - thereof continuing operations	347	254	486	1,143	1,394	221
Investing cash flow (pre-sale/purchase of securities and other financial investments) - thereof continuing operations	-255	-151	-252	-329	-462	-107
Adjusted free cash flow - thereof continuing operations	2,691 93	103	234	814	932	113
Capex - thereof continuing operations	334	49	125	240	404	78
Net financial liabilities (-); Net financial asset position (+) <sup>1</sup>	-606	-520	-426	+152	+245	+347
Net financial liabilities / EBITDA <sup>1</sup> (LTM)	0.6	0.4	0.2	-	-	-
Equity ratio	61%	63%	65%	65%	68%	71%

<sup>&</sup>lt;sup>1</sup> As of December 31, 2022, there are no longer any net financial liabilities.

### 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, 2022**



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

- Baader Helvea Equity Research
- Bank of America
- Berenberg Bank
- BMO Capital Markets
- Citi Research
- Deutsche Bank
- DZ Bank AG

- Exane BNP Paribas
- Jefferies Equity 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 Programme**

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

**Depositary:** 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

## K+S debt instruments and issuer rating

**Issuer rating (S&P):** BB+ (outlook: positive), November 2022

	Bond 07/2024 (3-months-par-call)		
WKN	A2N BE7		
ISIN	XS1854830889		
Listing	Luxembourg SE		
Issue volume	€600 million		
Outstanding volume	€281 million		
Issue price	100.000%		
Coupon	3.250%		
Maturity	18.07.2024		
Denomination	€100,000		

<sup>+</sup> Syndicated credit facility up to €600 million (available until 2024)

<sup>+</sup> Commercial paper program as an additional source of liquidity

### Financial calendar 2023/24

Annual Shareholders' Meeting, virtual	May 10, 2023
Half-Year Financial Report; June 30, 2023	August 10, 2023
Quarterly Report: September 31, 2023	November 14, 2023
2023 Annual Report: December 31, 2023	March 14, 2024
Quarterly Report: March 31, 2024	May 13, 2024

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