



RWE NUKEM Group – *Great Experience and Excellent Prospects*

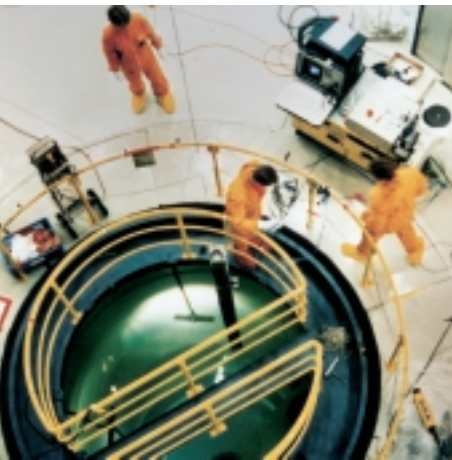
The companies of the RWE NUKEM Group provide services to the nuclear industry worldwide, specializing in the fields of nuclear facility decommissioning, radioactive waste management, operational support and nuclear fuel cycle services.

Founded in 1960 and leading the Group, RWE NUKEM GmbH (Alzenau), was one of the first nuclear companies in the German Federal Republic. Originally, the operations covered fuel element production for various reactor types. Developing nuclear engineering design and plant construction followed as a logical progression. In the mid 1970s, RWE NUKEM expanded its scope of services to include commercial trading of nuclear fuels, and, in this regard, has grown into a major international trading partner. Today, the company is specialized in worldwide decommissioning, radioactive waste management and fuel cycle service activities.

The UK-based RWE NUKEM Limited is regarded in Great Britain as a leading general engineer and general contractor for nuclear projects. RWE NUKEM Limited offers its customers an extensive program of services ranging from decommissioning, land remediation and nuclear waste treatment to engineering services and health physics as well as maintenance and refurbishment of nuclear facilities. With headquarters in Risley, Warrington, RWE NUKEM Limited is also represented at nearly all of the important location in the UK, including Dounreay, Winfrith, Harwell, Berkeley and Sellafield.

In the US, RWE NUKEM Corporation, based in Columbia, South Carolina, is one of the longest continuously operating waste treatment companies in the country. Its program of services includes decommissioning, waste operations, engineering services, and waste processing using the company's own technologies and mobile systems.

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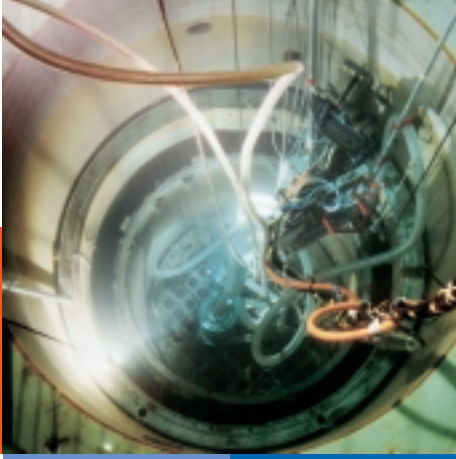
The other US-based company, RWE NUKEM, Inc. of Danbury, Connecticut, was established in 1982 to handle trading activities in the US market. Today, RWE NUKEM, Inc. together with its shareholder RWE NUKEM GmbH is the most important uranium trading company worldwide. Assistance Nucléaire S.A. – ANSA of Bouzonville, the French part of the Group, has specialized in the planning and implementation of remote handling technology for inspection and maintenance operations at nuclear facilities as well as dismantling and demolition projects. The German NIS Ingenieurgesellschaft mbH, based at Hanau, offers a broad spectrum of consulting in the field of nuclear technology. NIS specializes in providing products and services to achieve more efficient operational control and optimize administrative processes.





The Group companies are part of RWE Solutions AG, Frankfurt am Main. RWE Solutions AG is the leading service provider for the planning, construction and management of technical utility infrastructures, focusing on the business fields of industry and energy suppliers. RWE Solutions is the RWE management company of the Industry Services Division. The company serves industrial and energy sector customers around the world.





Decommissioning

A major focus of the Group's activities is the decommissioning of nuclear facilities – a complex task that requires extensive technical know-how and a thorough understanding of approval procedures. Complex projects of this kind call for comprehensive problem-solving concepts – a challenge we consistently accept in the interest of carrying out contract in response to specific customer needs. We provide a comprehensive range of products and services from concept to completion:

Concept Development

- Cost calculation and strategy development
- Studies and technical restoration concepts
- Approval planning
- Support and coordination of licensing processes

Segmentation Techniques

- Under water milling machines
- Under water shear
- Manipulator systems
- Water jet cutting equipment
- Flame cutting equipment
- Plasma-arc cutting equipment
- Mechanical cutting tools (saws, shears)

Facility Upgrading

- Electrical and control technology, object protection measures
- Ventilation systems
- Waste water and exhaust air monitoring
- Waste water treatment

Decontamination

- Procurement and supply of decontamination equipment
- Experience in a wide range of mechanical and chemical decontamination techniques
- Dismantling and Decommissioning Services

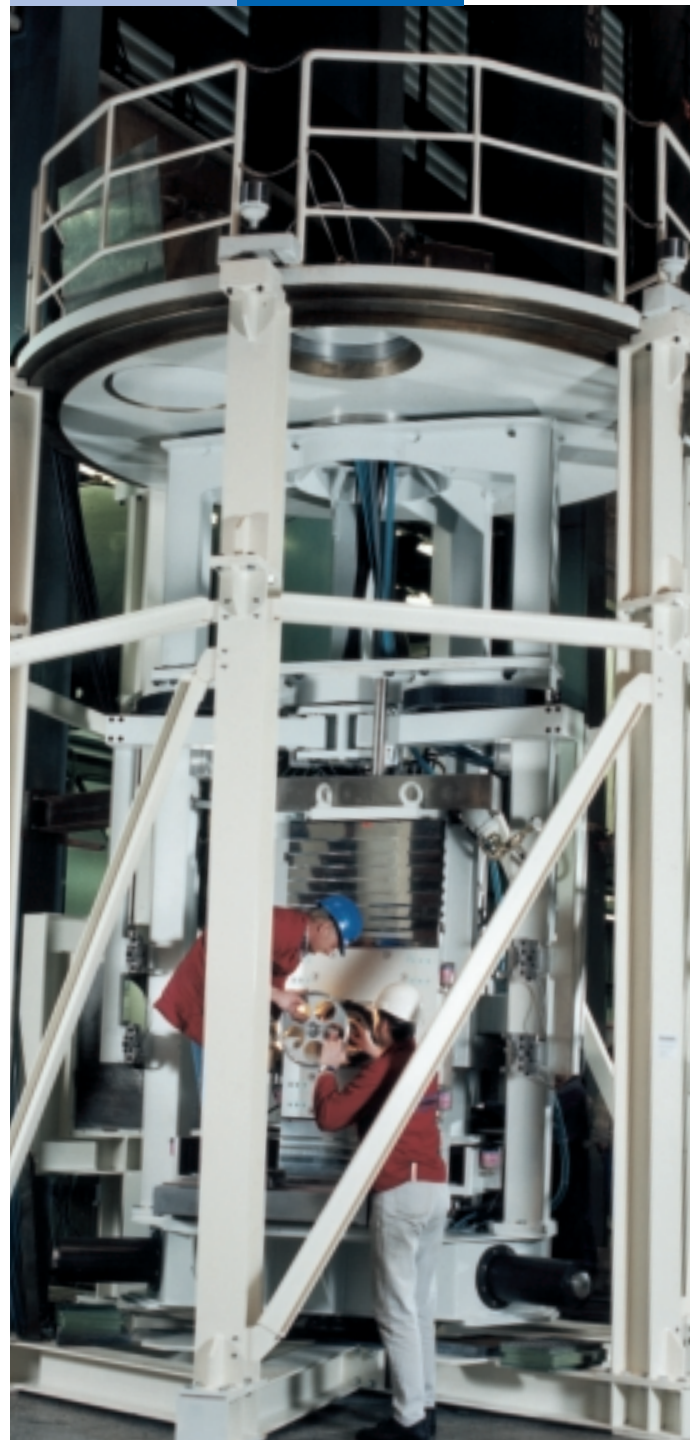


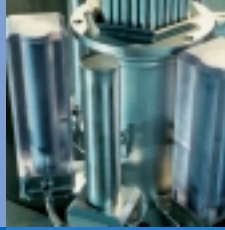


Site Characterization and Remediation

- In situ clearance measurement of buildings and outdoor areas
- Gamma spectrometry of individual sample containers, buildings, and outdoor areas
- Complete site survey using the Groundhog™ system
- Operation of clearance measurement systems
- Release of facilities from regulatory oversight

We see our primary objective in the realization of complete decommissioning project from start to finish. As a general contractor or general project engineer, we can assume full responsibility for the management and realization of complex decommissioning projects. We will also provide any part of our decommissioning as required by the customer.





Radioactive Waste Management

Radioactive materials accumulate in the course of nuclear facility operations and during decommissioning. The materials in question are either technically or economically unsuitable for further use or recycling and thus classified as radioactive waste. Conditioning is the last process used in the treatment of radioactive waste prior to storage or disposal. The end products must meet stringent safety requirements. Special technologies designed to reduce waste volumes help ease the demand for storage space and keep the costs of storage in interim or final repositories to a minimum.

The RWE NUKEM Group is one of the world's leading specialists in the treatment of radioactive waste. We develop customized solutions for your nuclear waste problems:

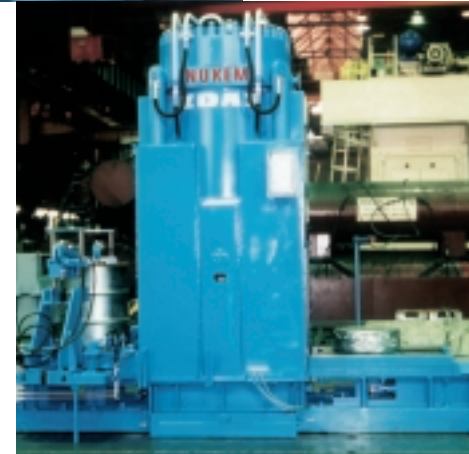
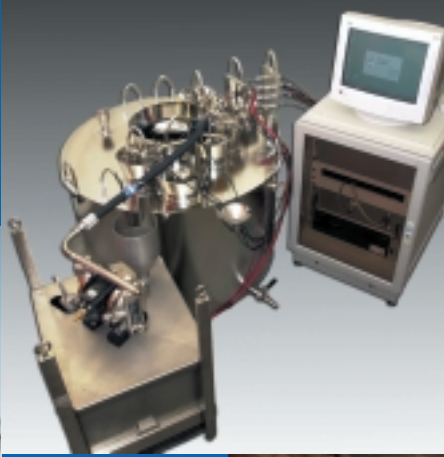
Concept Development

- Definition of waste types and quantities
- Waste treatment concepts
- Planning of waste treatment plants and complete centers

Radioactive Waste Treatment Technologies and Facilities

- Evaporation
- Concentration
- Cementation
- Microwave drying
- Vitrification
- Nuclide separation
- Pyrolysis
- Ultrafiltration / Reverse Osmosis
- Biological treatment of waste water
- Sorting / Segregation
- Compaction
- Incineration
- Pyrohydrolyse





Monitoring Systems

- Drum Radwaste Meter
- Raymos (γ -ray monitoring system)
- FAMOS (fuel element monitoring system)
- FEMOS (fissile material monitoring system)
- CAMOS (can monitoring system)
- Release measurement system

Disposal Services for Nuclear Power Plants and Nuclear Facilities

- Waste treatment /disposal management on behalf of the customer
- Waste material characterization
- Waste container qualification
- Pool waste treatment and disposal
- Tank and vaults emptying
- Concentrate treatment
- Dewatering
- Logistics management

Our service spectrum ranges from the provision of individual facilities such as cementation systems or high-force compactors to the design, delivery, and commissioning of complete waste treatment centers. In addition, we offer services utilizing our own equipment and personnel for waste processing.





Operational Support Services

Key areas in our operational support services activities cover health physics and engineering design. The Group's products and services also play an important role in contributing to better facility management, more efficient operational control and the optimization of administrative processes on the basis of state-of-the-art IT solutions.

Engineering in the Nuclear Fuel Cycle

- In-core and ex-core fuel management calculations and fuel management strategies
- Inspection and expert assessment of fuel element and reactor core configurations
- Reactor core analysis systems and monitoring systems
- Criticality assessment
- Computation for the optimization of spent fuel casks loads

Health Physics

- Radiation protection consultancy on planning issues from plant design through to decommissioning
- Audits of compliance with legal requirements on radiological protection in the workplace and in the environment

- Advice and support in operational radiation safety, including:
 - Hazard assessments and safety justifications
 - Contingency planning and emergency arrangements
 - Safe systems of work and their practical application
 - Radiological designation of areas
 - Designation of workers
 - Internal and external dosimetry (e.g. supply of dosimeters)
 - Dose record keeping
 - Radiation monitoring regimes
 - Instrumentation, including a calibration service
 - Personal protective equipment
 - Radiation protection training
 - Computation of shielding and dose rates

Operational Support and Facility Management

- Planning and procurement of components and systems
- System simulation and maintenance strategies
- Documentation and licensing proceedings



Quality Control

- Quality control and acceptance test during fabrication and assembly of fuel elements, for transport and storage containers, and other nuclear systems and components
- Review of technical planning and design documents

Professional Engineering and Administrative Software

- Plant computer systems and fast data acquisition systems
- Consulting, layout, design as well as performance and security analysis for IT-networks
- Consulting for equipment condition monitoring and early detection of damages in turbines, pumps etc. as well as design engineering, supply and support of diagnostic systems
- Database-aided input-control and archiving systems
- Design, development and supply of systems for process monitoring
- Systems for the management and optimization of complex industrial sites
- Knowledge maintenance training and computer-based training programs (CBT, WBT)

Engineering Design

- Mechanical engineering
- Civil and structural engineering
- Control and instrumentation
- Process engineering
- Electrical engineering
- Architecture
- Robotics
- CAD



Fuel Cycle Services

The RWE NUKEM Group offers full nuclear service solutions tailored-made to meet specific customers needs. The optimum solution for a procurement problem is often achieved only with an extensive package comprised of many single contracts and activities. Market knowledge, experience, worldwide contacts, creative ideas and recognition as a trustworthy partner are prerequisites for success in this market. Our customers include utilities, uranium producers, research centers, service providers, government agencies, banks, and other institutions.

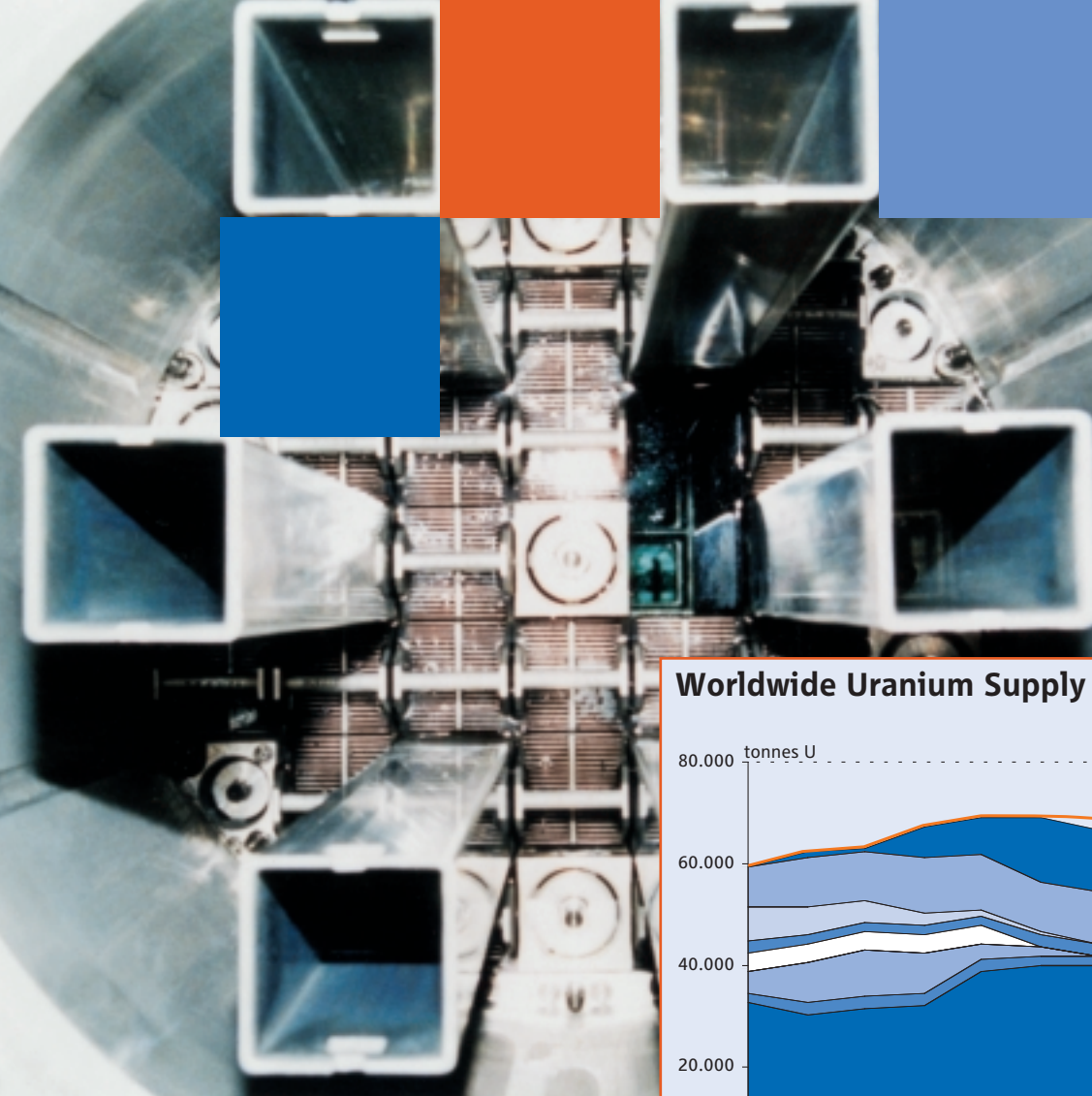
Thanks to its intensive trading and brokerage activities, RWE NUKEM is constantly in touch with the situation on the nuclear fuel market. This experience provides the essential basis for the Group's publications and studies.

Nuclear Fuels and Services for Power Reactors

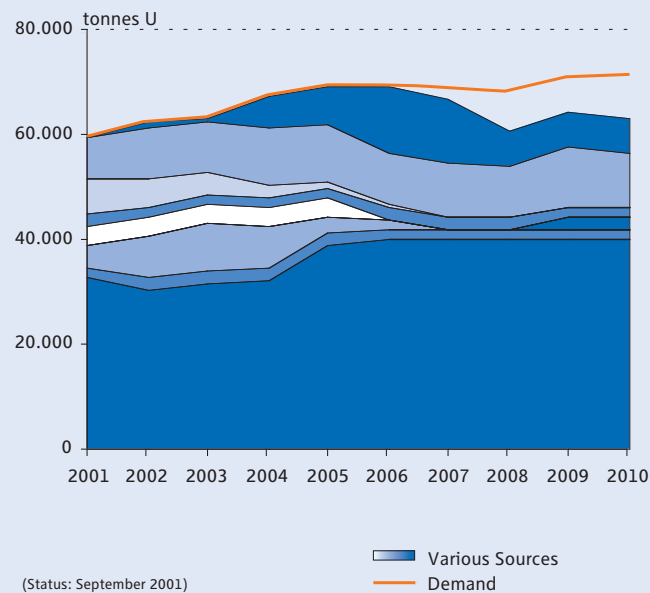
- Spot-, medium-, and longterm contracts for the supply of natural uranium concentrates, uranium hexafluoride, and for enriched uranium in the form of uranium hexafluoride, and uranium oxide
- Conversion and enrichment services
- Transport, storage, and contract management support
- Nuclear financing and exchange transactions at all levels of the nuclear fuel cycle

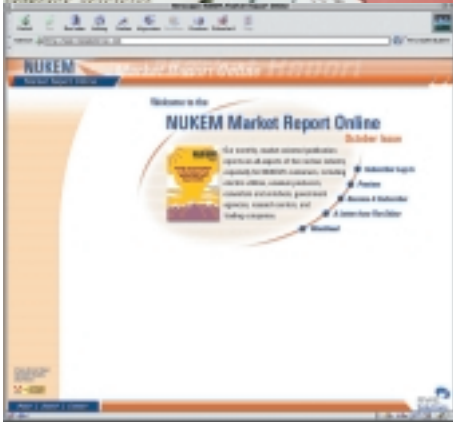
Nuclear Fuels and Services for Research Reactors

- Worldwide deliveries of highly enriched uranium (20 - 93 % U-235)
- Supply of low enriched uranium (< 20 % U-235) in form of metal and oxide
- Customer-specific solutions for virtually every supply and disposal problem in connection with research reactors



Worldwide Uranium Supply and Demand





Stable Isotopes

- Stable Isotopes for the nuclear industry
 - ${}^7\text{Li}$ (enriched lithium hydroxide monohydrate), used to alkalize the primary circulation system in pressurized-water reactors,
 - DZO (de-enriched zinc oxide) for corrosion and radiation reduction in nuclear power plants,
 - ${}^{10}\text{B}$ (enriched boric acid), used to extend the service life and improve water chemistry in pressurized-water reactors,
 - ${}^{10}\text{B}$ (iron boride and boron carbide) for storage containers for spent fuel elements and control rods,
 - D_2O (heavy water) as a moderator for CANDU and research reactors.
- Stable isotopes for the semi-conductor industry and for applications in the fields of medicine and biology

Information Systems and Studies

- Analyses and studies on economic, technical, and political aspects of relevance to the nuclear fuel cycle and related subjects
- NUKEM Market Report Online: our monthly, market-oriented E-magazine (www.nukemonline.com)
- eNICE: a broad spectrum of information and data about nuclear energy (www.enice.de)

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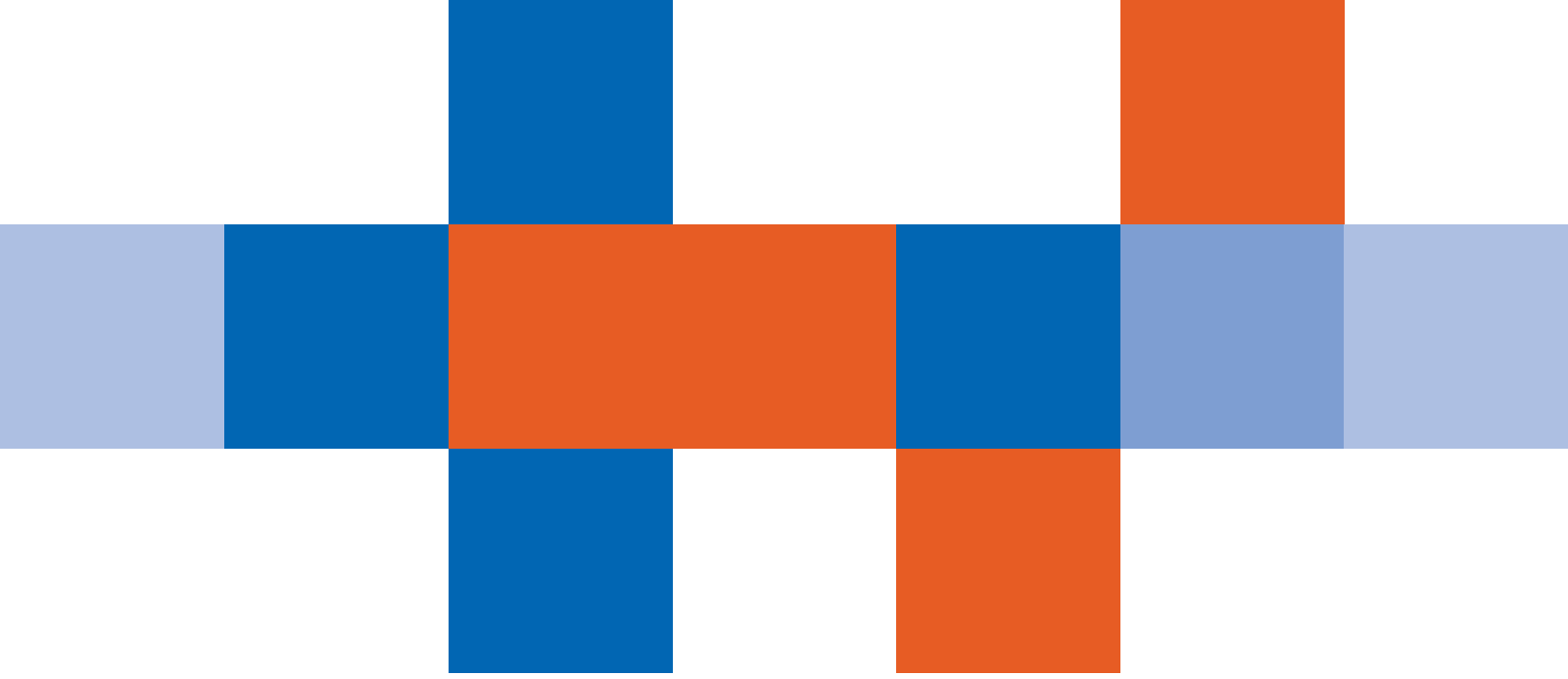
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