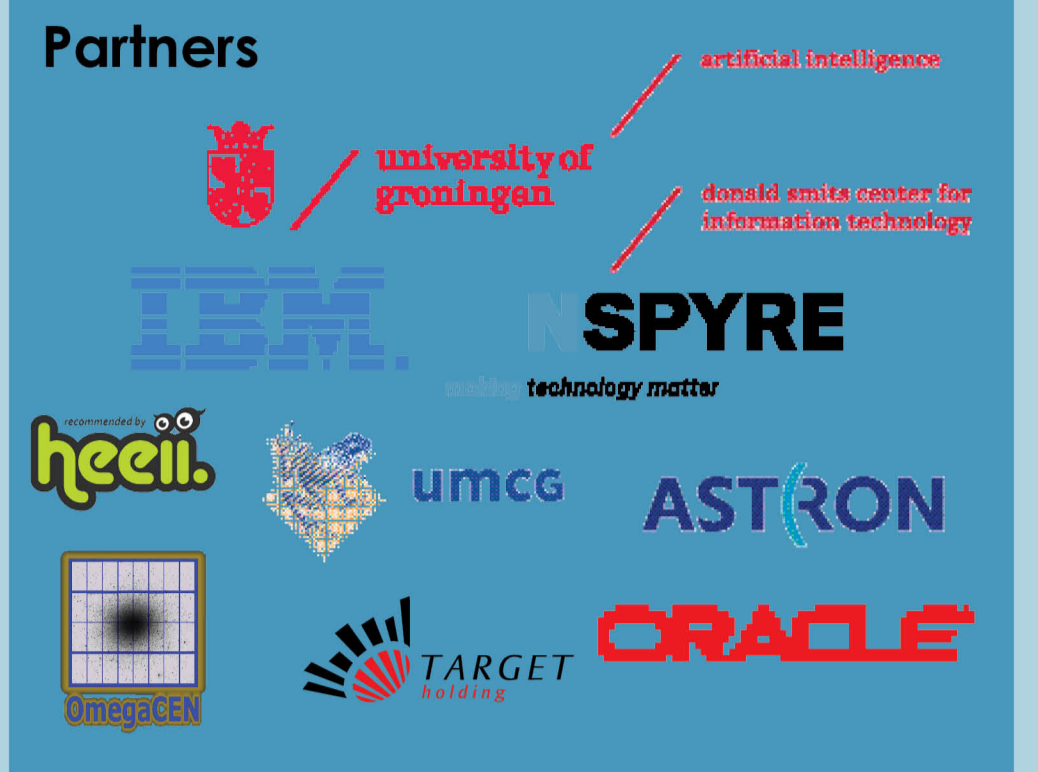


# Target

## Building Data Federations

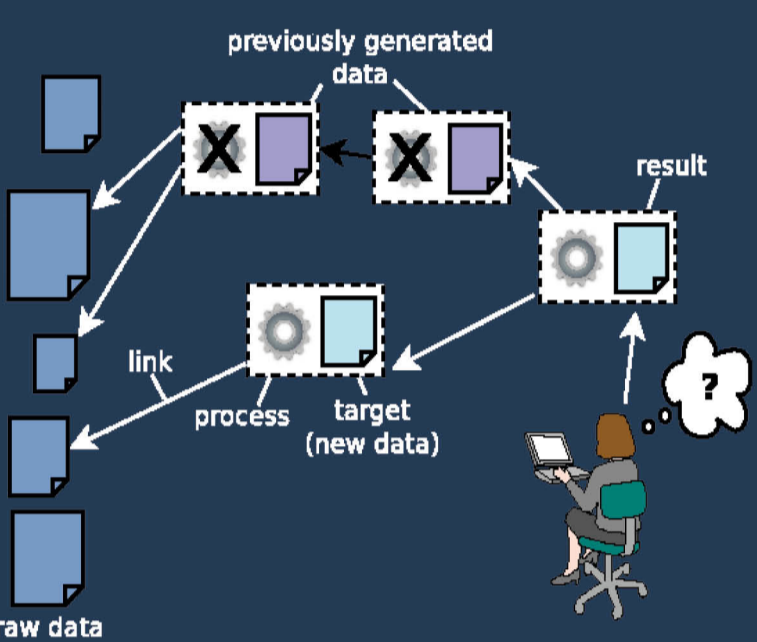


Target aims to revolutionise the management of very large amounts of data (Big Data). Prominent scientific research groups and innovative businesses jointly design and develop complex, modular and scalable information systems. Our core design principle is data federation - the full integration of large-scale data processing, archiving and analysis.



## Key Technology

### Target processing



### WISE

WISE is key technology that Target uses for management of commercial and scientific Big Data. WISE creates a collaborative environment for data storage and analytics where "data about the data" ensures users' knowledge and control of the processing flows all the way back to the raw data.

### Target Infrastructure

The Target infrastructure consists of state-of-the-art ICT facilities, which include a 10 PB storage capacity (GPFS) and high performance computing capabilities. The facilities are designed to meet very versatile user requirements and offer high flexibility, scalability and connectivity to other data centers across Europe

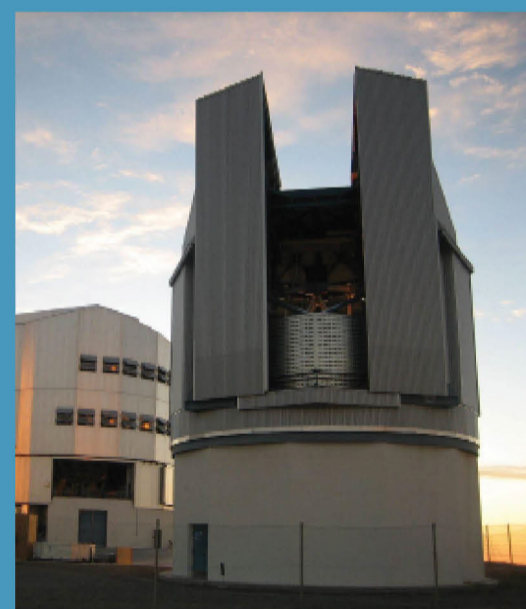


## Applications



### PHYSICAL SCIENCES

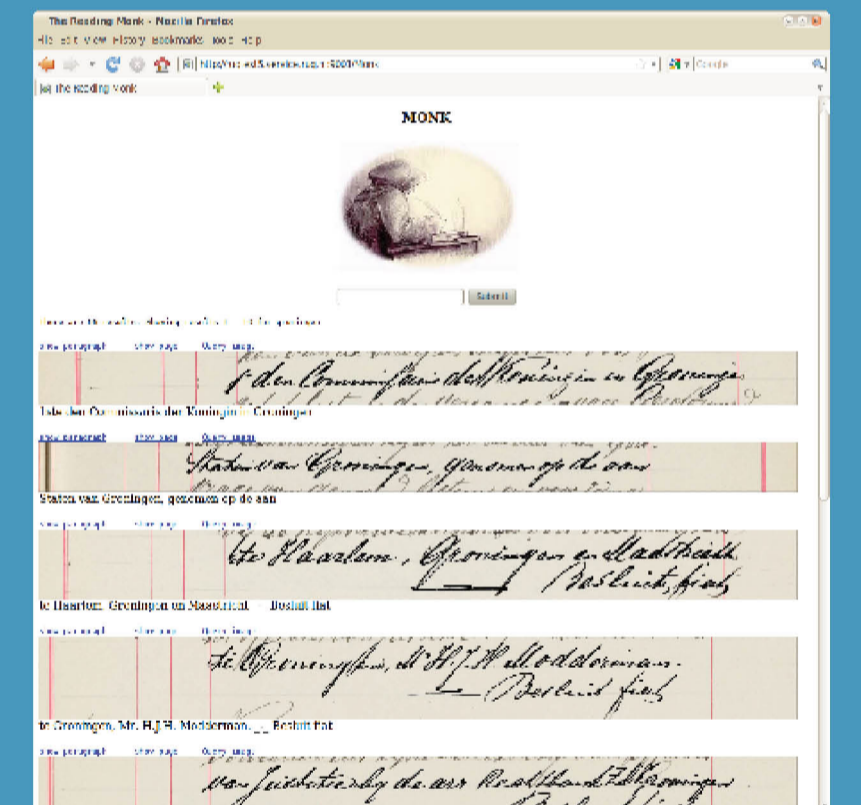
Target is a partner in many international large-scale scientific projects in astronomy. The Long-term Archive of the LOFAR telescope, one of the most powerful radio telescopes in the world, will grow to several PBs all of which will be stored on the Target infrastructure, and accessed and managed by a WISE-based information system.



Target has also conducted the data processing and quality control for two major optical public surveys - KiDS and VIKING. Currently, the Target team is heavily involved in the development of the Euclid Archive System for the ESA's Euclid mission expected to be launched in 2019 to study dark matter and dark energy.

### HUMANITIES

Target provides its unique facilities to the ALICE Institute at the University of Groningen where a powerful system, called Monk, was developed for handwritten text recognition. The Monk system combines artificial intelligence algorithms with the power of high performance computing to deliver efficient, automated and self-learning search engine for word retrieval and recognition. Currently, the Monk system has ingested historical collections from the Dutch National Archive as well as multiple manuscripts from international historical archives of Israel (the famous Dead Sea Scrolls), the City Archive of Leuven (Belgium), British and Czech libraries.



### LIFE SCIENCES

LifeLines ([www.lifelines.nl](http://www.lifelines.nl)) is the largest project undertaken in the North of the Netherlands to study the interplay between genetics and environmental factors in determining the speed and quality of the aging process in humans. The study will collect geno- and pheno-type data for 165000 people belonging

to several generations. The massive database that will contain all data is designed and managed by a collaborative team from the Target group and the UMCG research institute/hospital. The diversity and large volume of the data collected requires maximum flexibility in data handling and smart techniques in data mining.

### BUSINESS INNOVATIONS

Target is committed to further advance the R&D developments conducted in its expertise center in order to deliver concrete, market-ready and competitive innovation and solutions in the IT sector. This transition is coordinated and directed by one of the Target partners - Target Holding. Many small and medium enterprises from the north of the Netherlands are already benefiting from the Target technology and/or state-of-the-art infrastructure. Target Holding has signed R&D contract and has established several spin-offs operating in the domains of smart monitoring, e-health, digitization of archives, smart energy and more.



<http://www.rug.nl/target>

