ICM Technology Centre

UNDERSTANDING DATA

ICM TECHNOLOGY CENTRE

The ability to extract valuable and actionable information from data is a key factor in building competitive advantage in today's economy. However, to analyse data effectively and efficiently special skills and capabilities are required.

Our mission is to understand data.
We collect, process and analyse data to discover and extract the most valuable information and insight.

LEADERS IN DATA SCIENCE

ICM UW IS A **LEADING FACILITY FOR DATA SCIENCE** IN CENTRAL EUROPE.

Our specialists use **state-of-the-art technology** for data analysis and visualisation.

ICM TECHNOLOGY CENTRE

Our Technology Centre has **6 000 square metres of total floor space** and is equipped with cutting-edge computer systems for conducting advanced, **large-scale simulations, as well as high-end data processing, analysis, visualisation and secure long-term data storage.**

This modern facility allows for the optimal use of the existing infrastructure as well as proving ample capacity for future expansion.

A CENTRE FOR BIG DATA ANALYTICS

THE TECHNOLOGY CENTRE IS ESSENTIAL IN CARRYING OUT ICM'S MISSION.

ICM TECHNOLOGY CENTRE

The Technology Centre facility adheres to the most rigorous security standards. It is equipped with an innovative **Diesel Rotary Uninterruptible Power Supply (DRUPS)** system that allows for substantial savings in electricity costs. A sophisticated fire suppression system ensures that all parts of the facility have appropriate fire protection or even fire prevention in critical areas through the use of hypoxic air technology.

The facility was constructed with a primary focus on energy efficiency with the installation of STULZ temperature and humidity control infrastructure with free-cooling capability, and **the minimization of environmental impact** by recycling waste heat generated by the IT infrastructure to heat the office and administration areas of the building.

SAFETY AND EFFICIENCY

THE ENTIRE FACILITY WITH ALL OF ITS COMPONENTS IS SUBJECT TO **24/7 MONITORING** BY SPECIALISTS FROM THE NETWORK OPERATIONS CENTRE (NOC) WHO FOLLOW RIGOROUS SECURITY AND SAFETY PROCEDURES.

ICM TECHNOLOGY CENTRE

The Technology Centre is equipped with the latest generation of supercomputers and data storage infrastructure which are designed and used for:

large-scale computations and simulations (the “Okeanos” Cray XC40 supercomputer with 1084 compute nodes, each with 24 Intel Xeon CPU cores, 128 GB of RAM and the custom, high performance “Aries” interconnect with dragonfly topology),

Big Data processing and high-performance analytics (the “Enigma” Huawei cluster with over 8 thousand compute cores, 43 TB of RAM, 8 PB of disk space, purpose-built for Apache Spark),

STATE-OF-THE-ART INFRASTRUCTURE

high performance data storage (a DataDirect Networks storage cluster with a total capacity of 12.6 PB and 150 GB/s of sustained bandwidth),

long-term data preservation (a HGST EasiScale object storage system with a total capacity of 9.4 PB and 7 GB/s of sustained bandwidth).

ICM TECHNOLOGY CENTRE

Data collected in the Technology Centre, including data generated through in-house simulations and computations, are analysed in a modern Data Visualisation Laboratory.

DATA VISUALISATION LABORATORY

A LARGE-SCALE, **8K ULTRA HIGH DEFINITION VIDEO WALL** ALLOWS FOR THE OBSERVATION OF COMPLEX DATA DEPENDENCIES AND CORRELATIONS WHICH PREVIOUSLY REMAINED UNNOTICED.

The video wall is powered by a dedicated high-performance computing system with advanced graphics capabilities and a direct, high-throughput connection to the data storage infrastructure.

ICM TECHNOLOGY CENTRE

To ensure optimal use of the Technology Centre infrastructure, highly skilled teams of specialists in the field of high performance computing, visualisation and data science provide necessary support in the following areas:

- design and set-up of data processing environments for users from science, business and the public administration,
- data processing frameworks and tools from the Apache Hadoop, Spark and Flink ecosystems,

LEADERSHIP CENTRE OF EXCELLENCE

- data science methodology which enables the transformation of data into knowledge including, among others, machine learning, computational statistics, information visualisation and business intelligence.

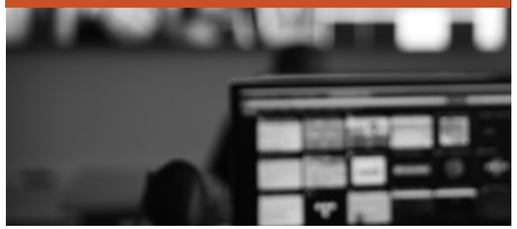
ICM TECHNOLOGY CENTRE

Companies in the modern economy depend increasingly on effective interpretation of data and the capability to generate actionable insights. This science is used throughout a variety of areas including Telecommunications, Retail & Commerce, Financial Services, Transport & Logistics and Healthcare.

We draw our data science experience from numerous projects implemented not only in the scientific community, but also for the commercial and public administration sectors.

TRAINING IN DATA ANALYTICS TAILORED TO YOUR NEEDS

WE OFFER A WIDE VARIETY OF TRAINING PROGRAMS IN THE FIELD OF DATA ANALYSIS (EG. IN R, APACHE SPARK, NETWORK DATA ANALYSIS, DATA MINING) THAT WE CAN ADAPT TO THE NEEDS OF INDIVIDUAL GROUPS FROM COMPANIES OR INSTITUTIONS.



Reach out to us to confirm the scope and topic of your interest:

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