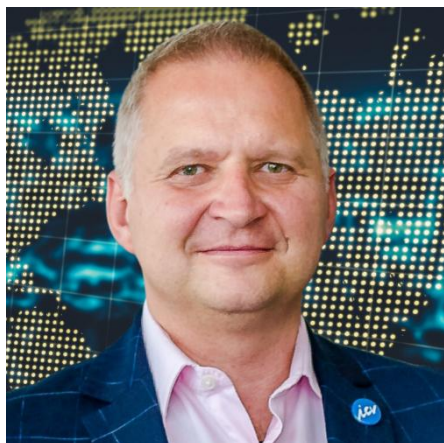


DATA

ON THE DANCEFLOOR:

From Beats to Business Artificial Intelligence

DR TOMASZ M. ZIELIŃSKI



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POZNAŃ UNIVERSITY
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PHD IN ECONOMICS, FINANCE



MANAGING DIRECTOR OF ICV POLAND (INTERNATIONAL
ASSOCIATION OF CONTROLLERS)



PRESIDENT OF THE BOARD AND LECTURER
AT THE AKADEMIA CONTROLLINGU



Massachusetts
Institute of
Technology



EXECUTIVE CERTIFICATE
IN STRATEGY AND INNOVATION



IBCS® CERTIFIED CONSULTANT



SUPERVISOR AND LECTURER OF THE ADVANCED
CONTROLLING BUSINESS PARTNER (ACBP) DIPLOMA PROGRAM



POZNAŃ UNIVERSITY
OF ECONOMICS
AND BUSINESS

SGH Warsaw School
of Economics



NICOLAUS COPERNICUS
UNIVERSITY
IN TORUŃ

LECTURER



CONTROLLING AND BUSINESS INTELLIGENCE DIRECTOR
AT VOX CAPITAL GROUP (2019 – 2023)

Agenda

- **Implementing Self-Service Business Intelligence in an International Capital Group**
- Artificial Intelligence in Management Reporting – **Who is the Human-in-the-Loop?**

Evolution from
traditional
reporting to
data-driven
decision
making.

REPORTING → BI → SELF-SERVICE BI

**Empowering
managers and
controllers to
perform
independent
analyses.**

REPORTING → BI → SELF-SERVICE BI

The background features a black field with various financial and market-related elements. At the top left, red text displays '751% THB 5.221.96 Q.42%'. Below this, green pixelated text shows '101.00', 'UTILITIES', and '0.33%'. At the bottom, large orange pixelated text reads 'to global ECO'.

Benefits and risks of decentralizing analytics

REPORTING → BI → SELF-SERVICE BI

The importance of data governance and quality management

REPORTING → BI → SELF-SERVICE BI

CASE STUDY

Profile VOX CAPITAL GROUP

3 PRODUCTION PLANTS

9 TRADE COMPANIES

1 SHARED SERVICE CENTER



A collage of various business documents, charts, and graphs. In the center, a hand with a gold pen points to a bar chart showing data for Asia, Europe, Africa, and America. Other documents show line graphs, pie charts, and bar charts with different color schemes. A smartphone is visible in the bottom right corner. The overall theme is business data analysis and reporting.

Challenges of
diverse
formats,
colors, and
interpretations
across
subsidiaries

BEFORE – CHAOS / AFTER – UNIFIED

A man with a long white beard and goggles is holding a large disco ball. He is wearing a red sequined jacket. The background is a bright orange color with confetti falling around him. The text "Introduction of IBCS® as a common 'language' for management communication" is overlaid on the right side of the image.

Introduction of
IBCS® as a
common
“language” for
management
communication

BEFORE – CHAOS / AFTER – UNIFIED

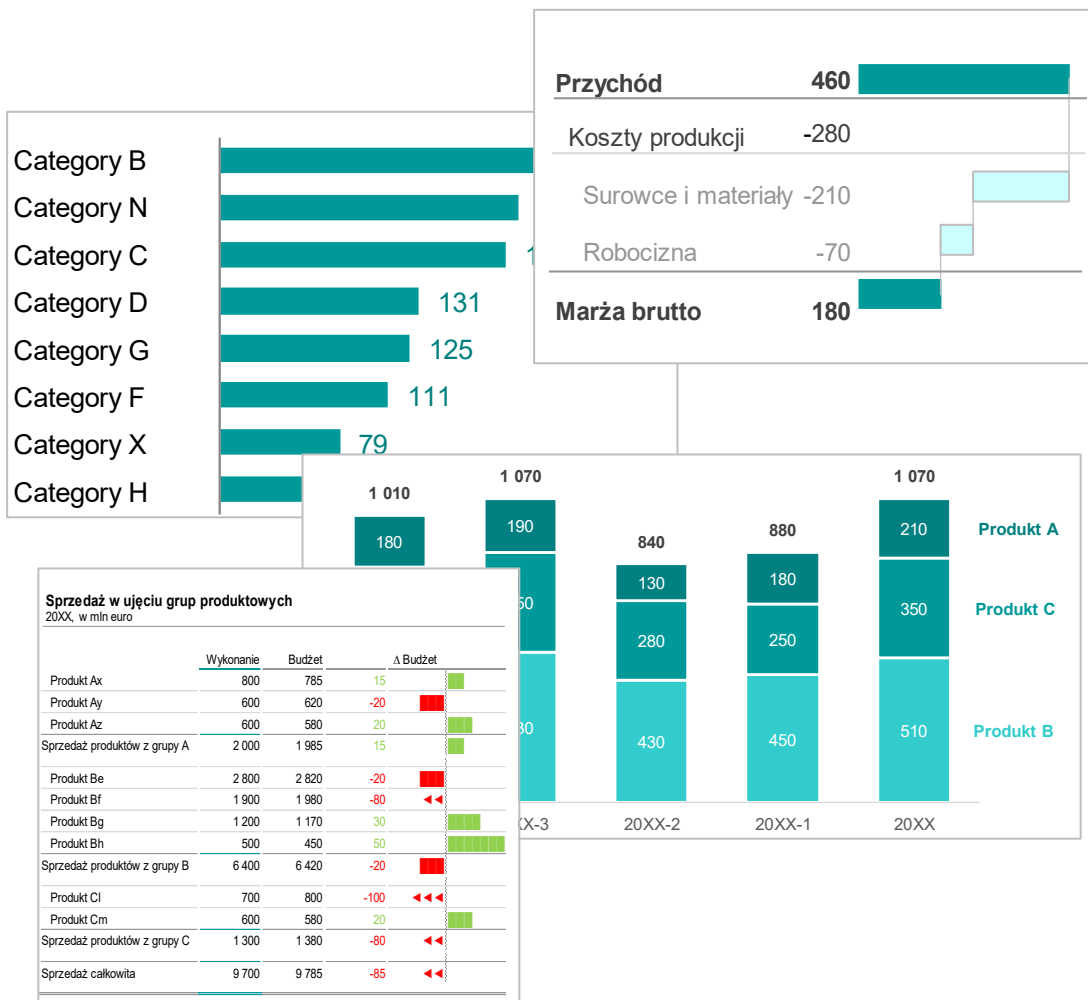
Do we need
one, unified
reporting
standard?

F





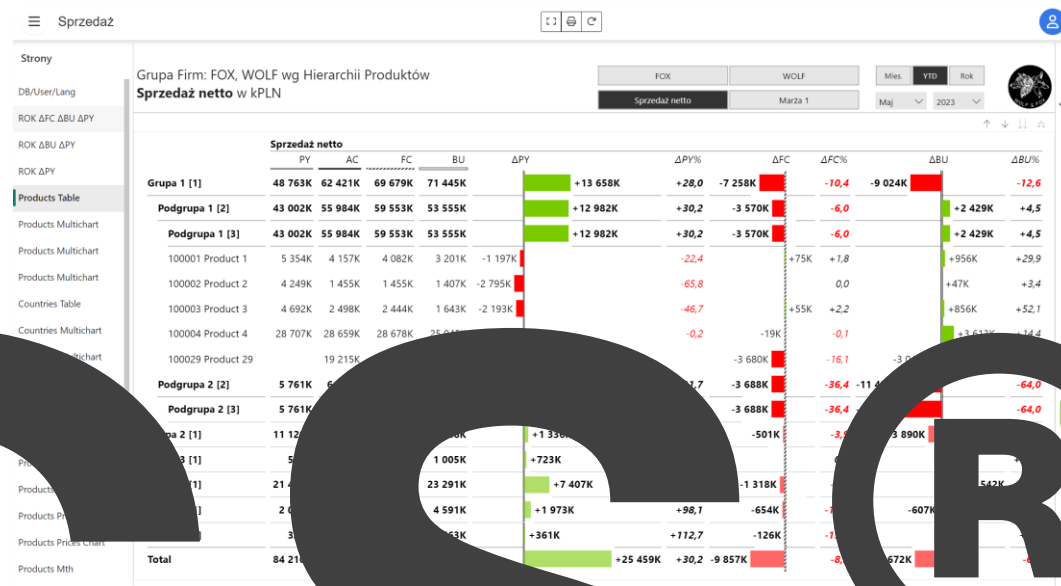
International Association of Controllers



Exzellenz im Reporting Design

Leitfaden für messbar bessere Berichte





IBCS

International Business Communication Standards

- Notation rules for charts and tables
- 61% less errors, 46% faster understanding *)
- Free, open, community-driven
- >8.500 IBCS members from >130 countries
- Training program with >8000 participants
- 11 IBCS Certified Software packages
- 85 IBCS Certified Consultants
- Hundreds of companies applying IBCS:
 - Lufthansa Service Group
 - Coca Cola Icecek
 - Mercedes-Benz
 - Philips
 - Pro7Sat1
 - SAP
 - **VOX**
 - ...



*) Source: Freyer, J. et al.: More than just a standard —
How IBCS facilitates the perception of business data, 2019.

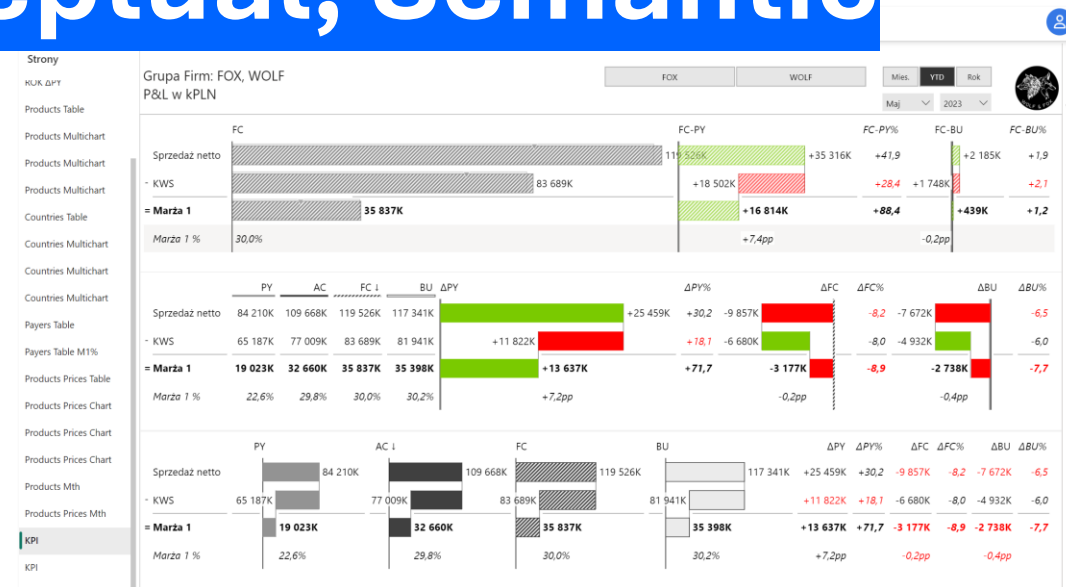
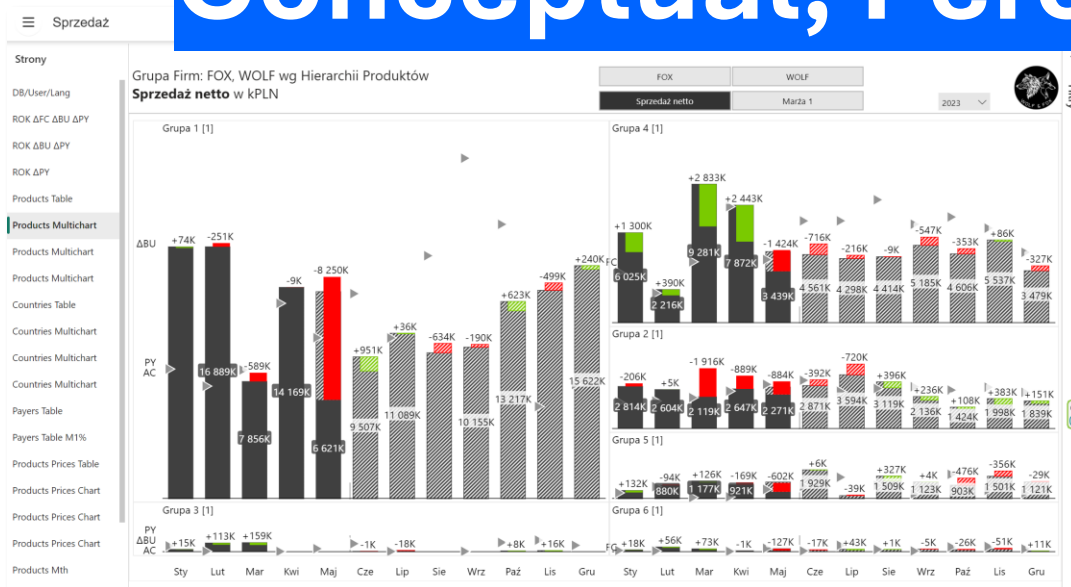


The collage features several data visualization components from a business dashboard:

- Line Chart:** A line chart showing percentage changes over time. The y-axis is labeled 'ROK ΔPY' and 'Products Table'. The x-axis shows months (Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec). Data points are marked with red and green dots, and a green line connects them. A legend indicates 'ΔPY%' and 'Products Table'.
- Bar Chart:** A bar chart showing percentage changes over time. The y-axis is labeled 'ΔPY%' and 'Products Table'. The x-axis shows months (Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec). Data points are marked with red and green bars, and a green line connects them. A legend indicates 'ΔPY%' and 'Products Table'.
- Table:** A table showing financial data. The columns are labeled 'FOK', 'WOLF', 'Sprzedaz netto', and 'Marza'. The rows show data for 2023 and 2024. The table includes a 'Products Table' section with columns for 'Products Multichart' and 'Products Table'.
- Table:** A table showing financial data. The columns are labeled 'FOK', 'WOLF', 'Sprzedaz netto', and 'Marza'. The rows show data for 2023 and 2024. The table includes a 'Products Table' section with columns for 'Products Multichart' and 'Products Table'.

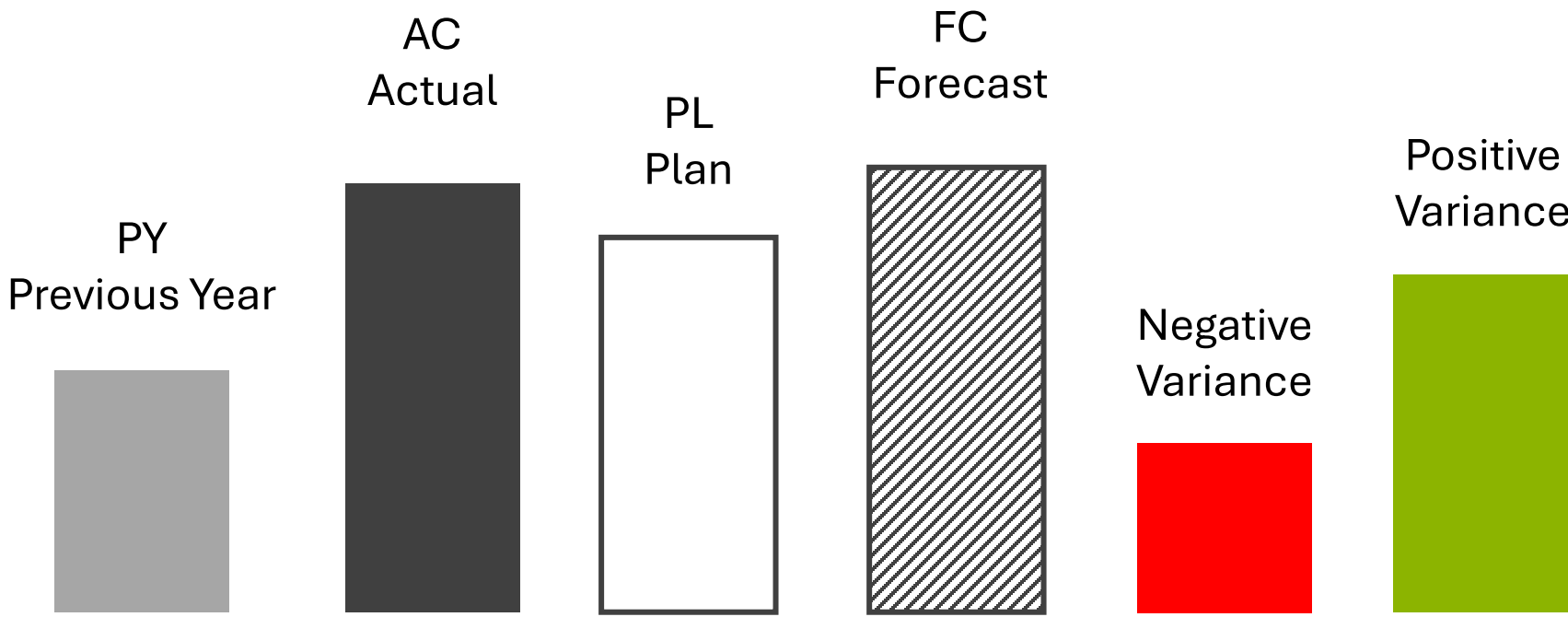
Large, bold, dark grey text is overlaid on the collage, reading '98rules'.

Conceptual, Perceptual, Semantic



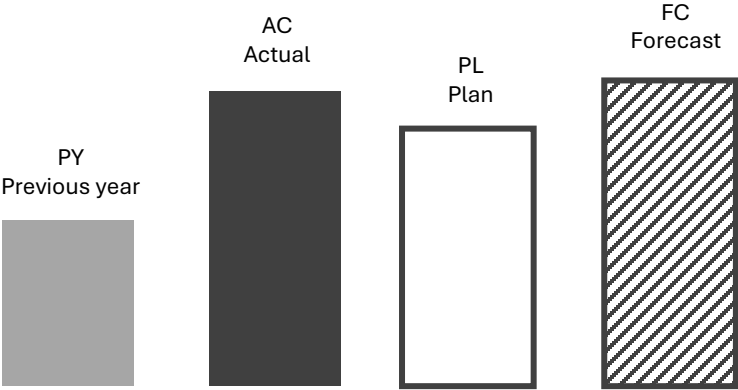
International Business Communication Standards

Scenarios Variances

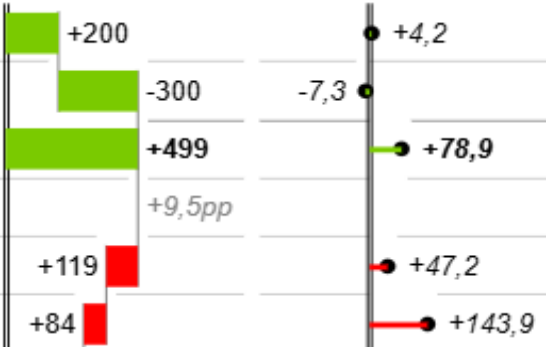


IBCS – MY TOP 3

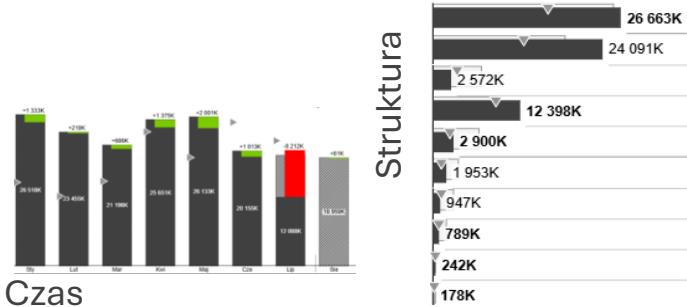
SCENARIOS



VARIANCES



TIME & STRUCTURE





Pages

Year ΔFC ΔBU ΔPY

Map

Products Table

Products Margin%

Products Multichart ΔFC...

Products Prices Chart Δ...

Countries Table

Countries Margin%

Countries Multichart ΔF...

Flow AI

Scatter Chart

Pareto

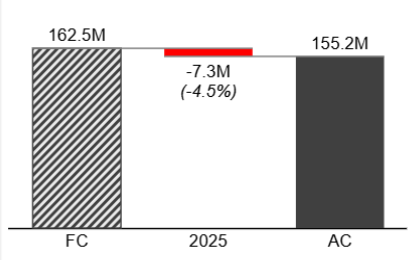
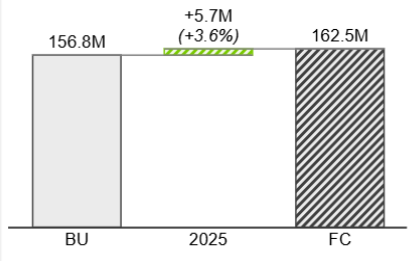
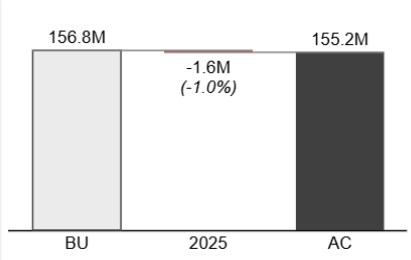
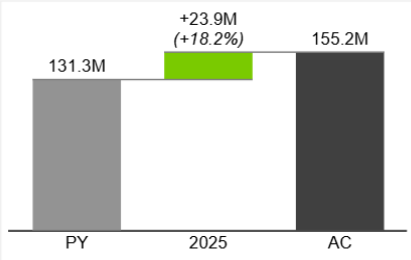
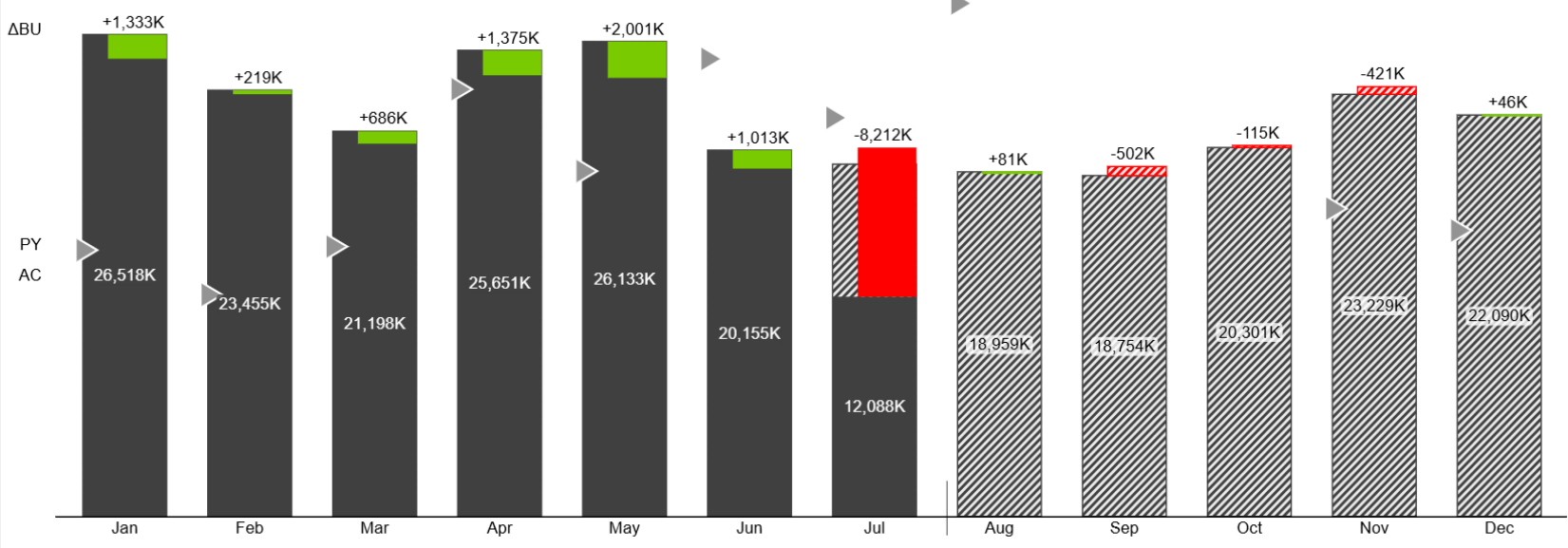
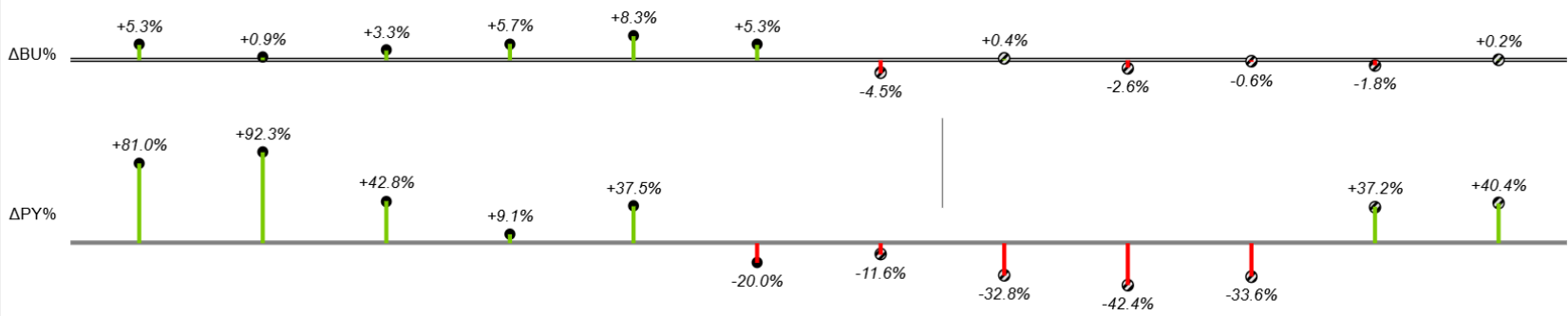
KPI

Do you understand?

Group of companies: FOX, POL
Net sales in kPLN
_Jul 2025

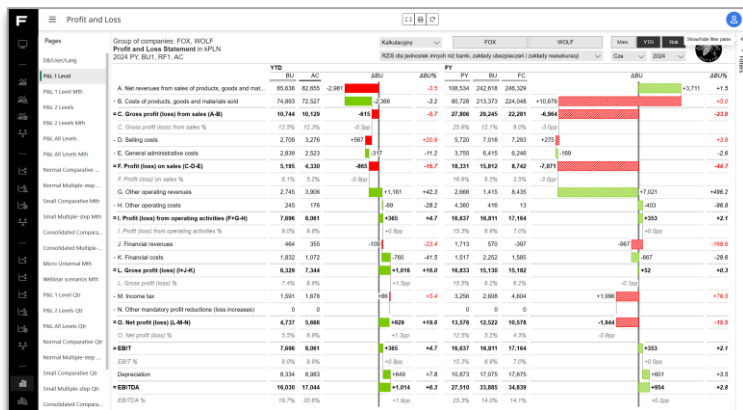
FOY POL
Sprzedaż netto Marża 1 Ilość sprzedana

Mies YTD Rok
Lip 2025



P&L

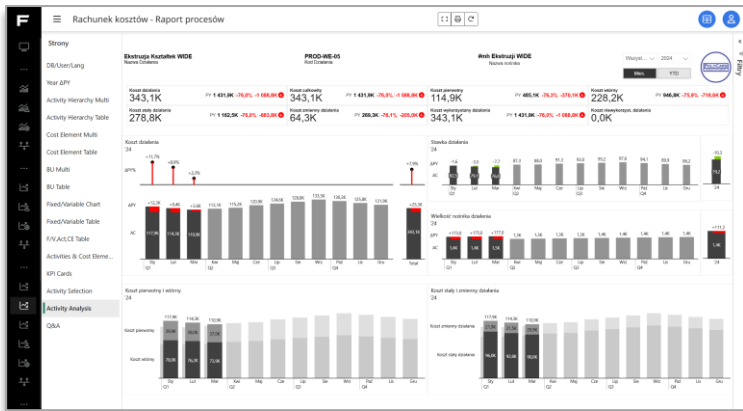
Management Reporting Concept



SALES

OPERATIONS

COSTS





Need for automation of management reporting – decision to implement a BI system

IBCS®

Idea to implement reporting standards

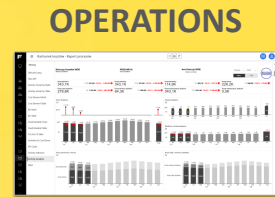
Selection of BI system and training

First visualizations

0

1

2 years



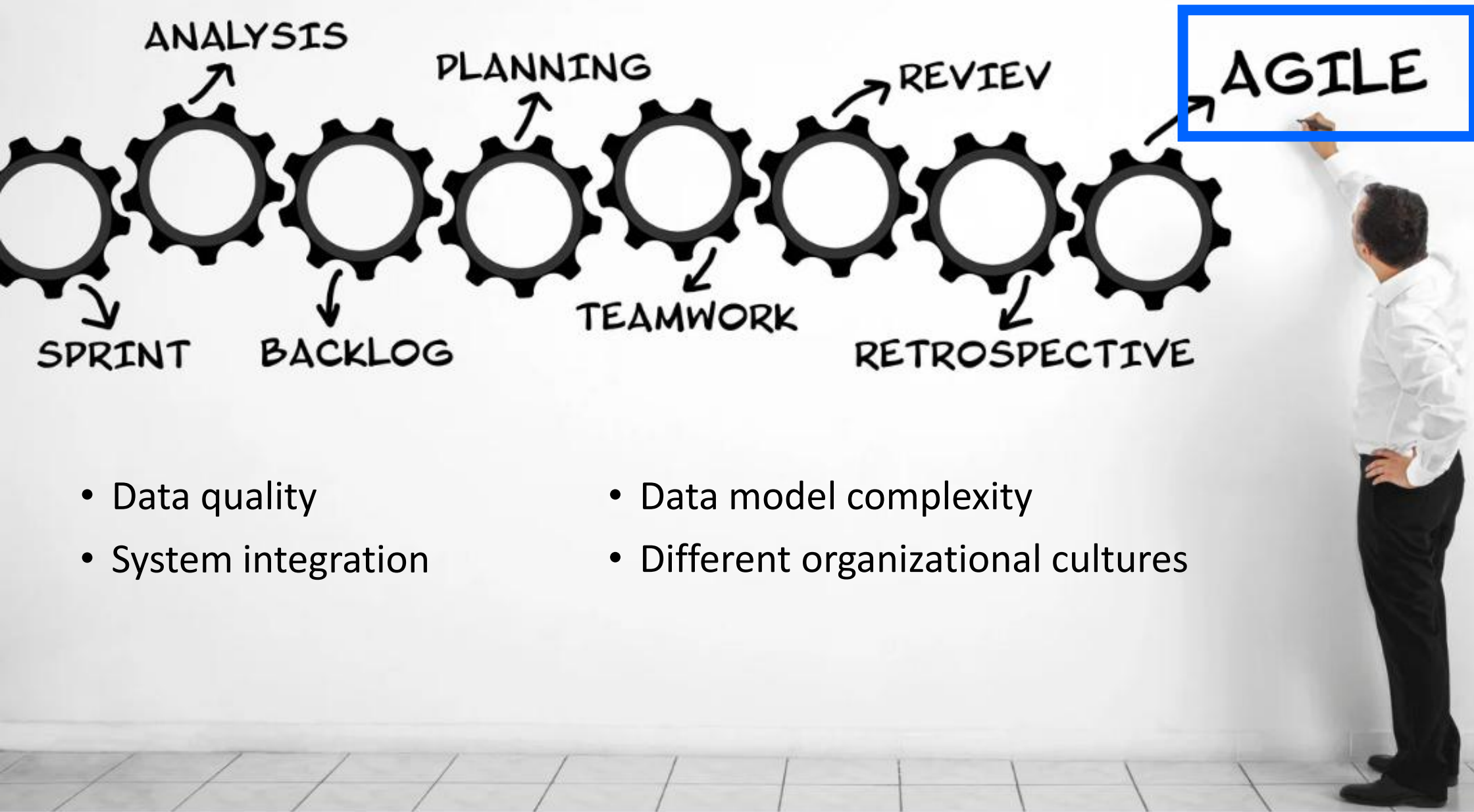
- Central Data Warehouse
- Number of data models – 13
- Cloud-based BI solution
- Access via web browser and mobile devices
- Number of users – 120 (from different countries)
- Number of reports – 34
- Number of report pages – 680
- Language – English
- Project team: 2 Data Engineers, 3 Report Developers

Report = Product

- Version numbering and releases as in IT systems – e.g. Sales 1.2
- Training presentation included in each report
- User training sessions
- Use case presentations and joint work on reports by Controlling and Business teams



Working method and challenges



- Data quality
- System integration
- Data model complexity
- Different organizational cultures



Benefits of using the BI system:

- Increased utilization of software and automation of controlling processes deliver the following advantages:
 - **Freeing the controlling** department from operational tasks and creating time for **value-adding activities**.
 - Reducing manual work and **improving data quality**.
 - Shortening processes and enabling **faster decision-making**.
 - Establishing a „**single source of truth**” — an official, authorized data source for all reporting systems.
 - Improving documentation and **increasing the security** of the system.

Agenda

- **Implementing Self-Service Business Intelligence in an International Capital Group**
- **Artificial Intelligence in Management Reporting – Who is the Human-in-the-Loop?**



AI CONTROLLING ASSISTANT



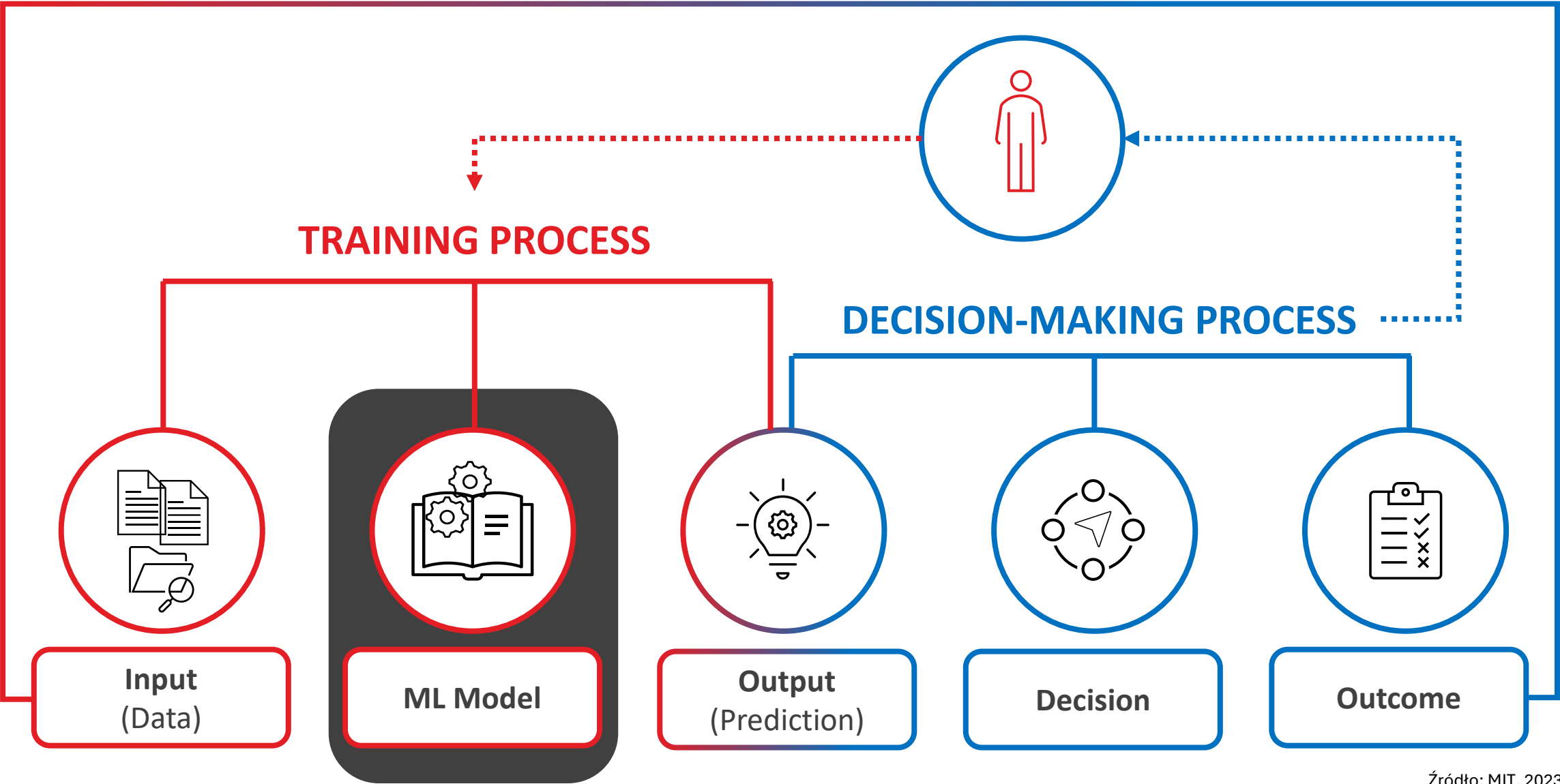
Data Fine Tuning Output Control Hallucinations



A man in a dark blue suit and tie is sitting in a modern office chair at a white desk. He is looking at a laptop screen. The laptop screen displays a digital interface with a man's portrait, a fingerprint icon, and various charts and graphs. The background shows large windows with a view of a city.

Data Fine Tuning Output Control Hallucinations

HUMAN-IN-THE-LOOP



Źródło: MIT, 2023

HUMAN-IN-THE-LOOP

icv

IGC

Perspective

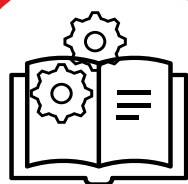
of the International Controller Association (ICV)
and the International Group of Controlling (IGC)

TRAINING PROCESS

DECISION-MAKING PROCESS



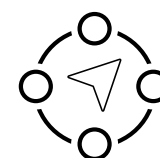
Input
(Data)



ML Model



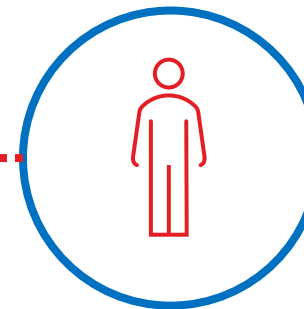
Output
(Prediction)



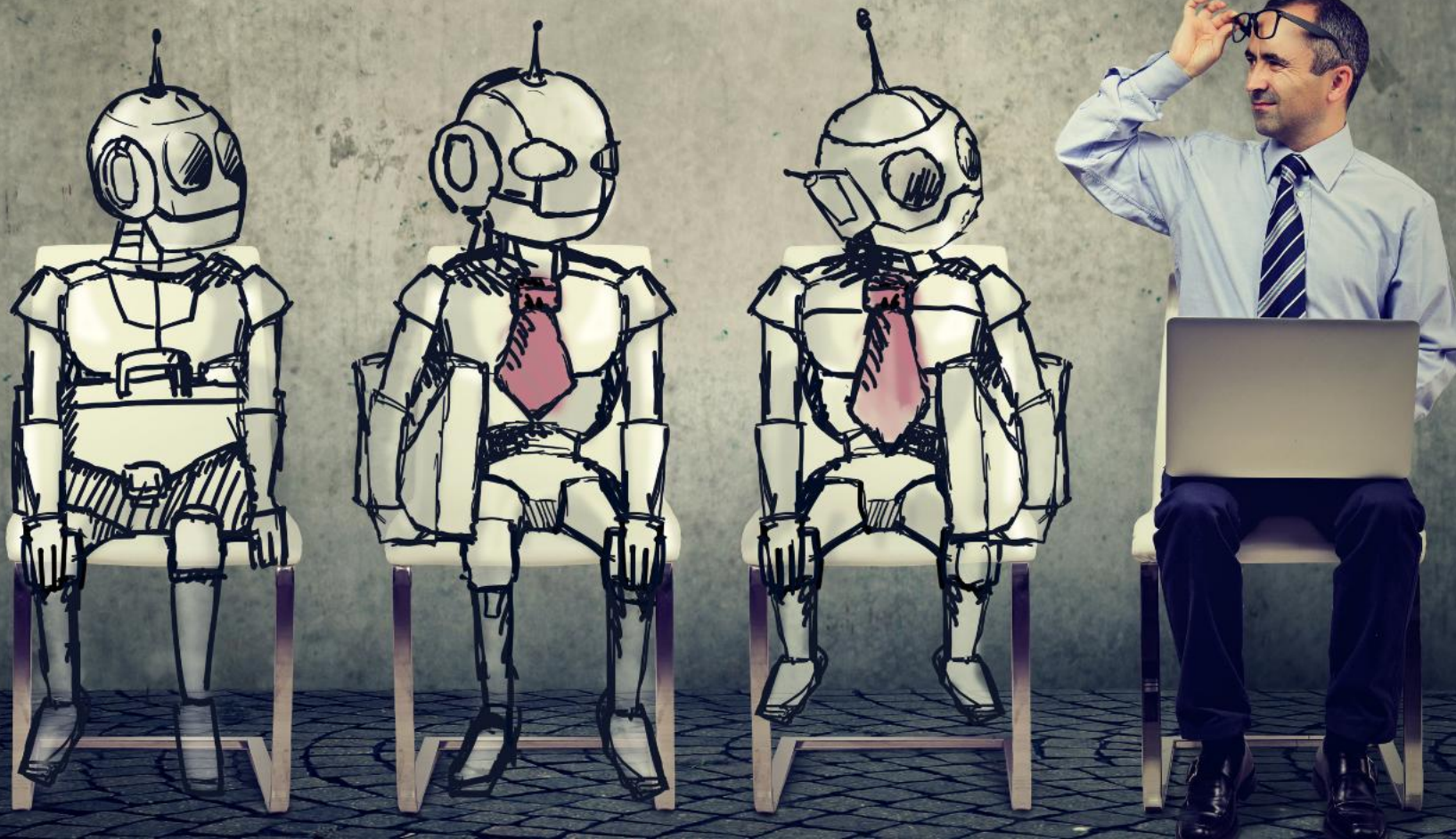
Decision



Outcome



HUMAN-IN-THE-LOOP





**To detect hallucinations, you need
to understand the problem on an expert level**



Where it is easier
to detect hallucinations?

FINANCIAL STATEMENT (public company)

As of 31 December 2027 (amounts in thousand PLN)

ASSETS	2027	2026
(1) Non-current assets	5,792	6,104
(2) Intangible assets	26,105	25,374
(3) Property, plant and equipment	1,350	1,275
(4) Long-term investments	4,560	4,392
(5) Total non-current assets	37,807	38,145
Current assets	43,957	42,250
(6) Inventories	22,150	21,510
(8) Short-term receivables	16,972	16,530
(9) Cash and cash equivalents	4,835	4,210
(9) Total current assets	43,957	42,250

In 2027, the company's total assets increased to PLN 81,764 thousand, compared to PLN 80,395 thousand in the previous year. This growth was primarily driven by an increase in property, plant and equipment and inventories, while intangible assets decreased.



DOCTOR DJ

10



DATA

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From Beats to Business Artificial Intelligence