

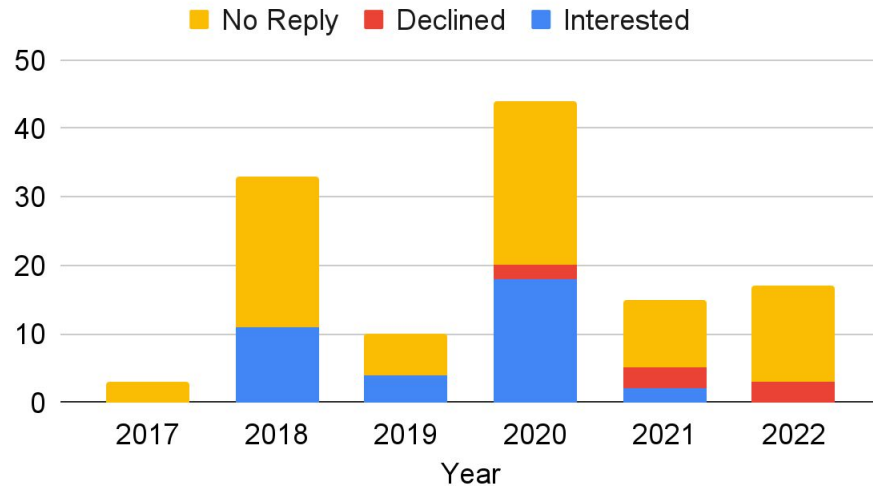
# Industrial Liaison and Technology Transfer

A quick overview - statistics, analysis, feedback

D. Barna  
CERN Industrial Liaison Officer for Hungary  
Wigner Research Centre for Physics

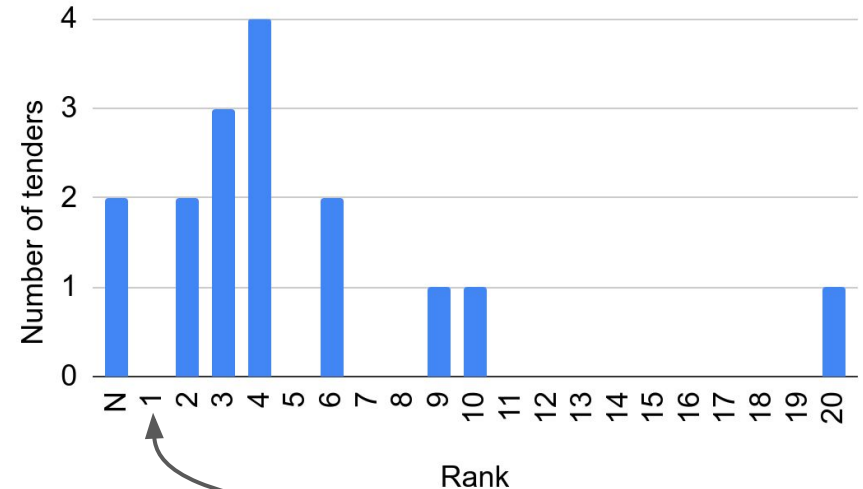
# MS and Tender Statistics 2017-2022

## Market Surveys: Interested, Declined and No Reply



- < 45 Market Surveys / year
- Dominantly **NO REPLY**

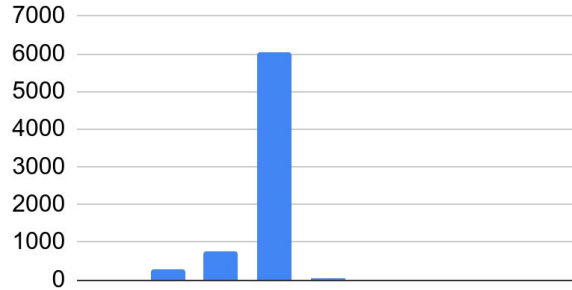
## Tender statistics: 2017-2022



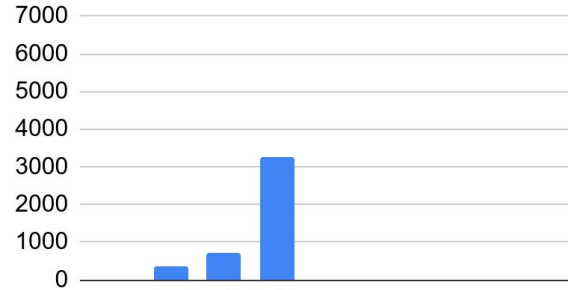
- 16 tenders in last 5 years
- Not a single winner

# Hungarian supplies vs. procurement category

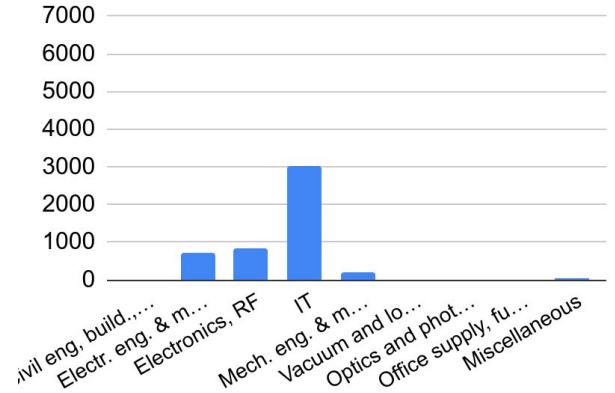
2017



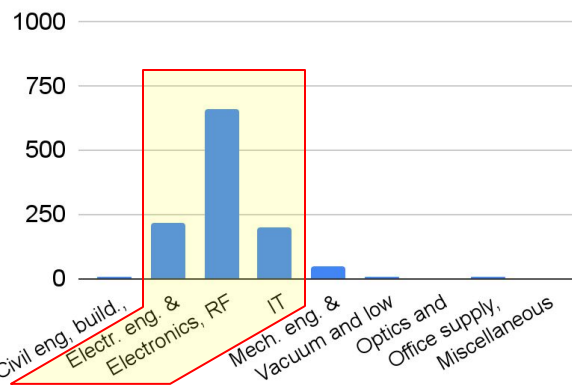
2018



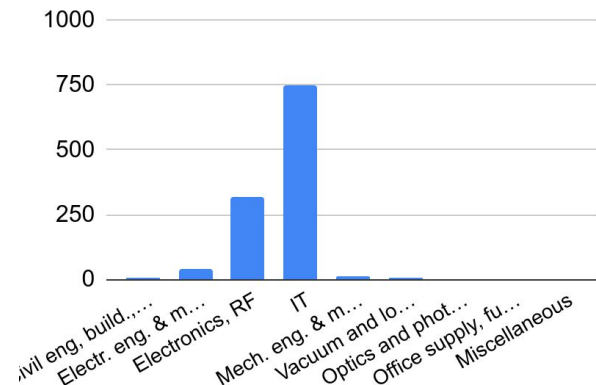
2019



2020



2021

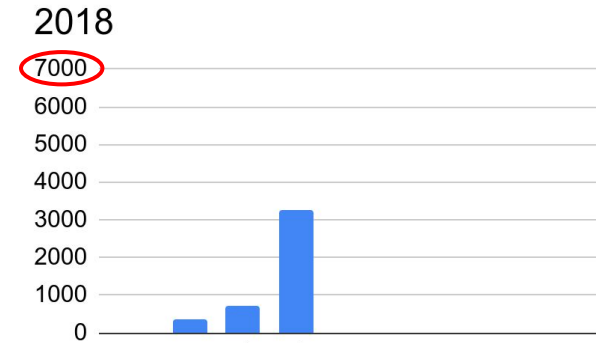
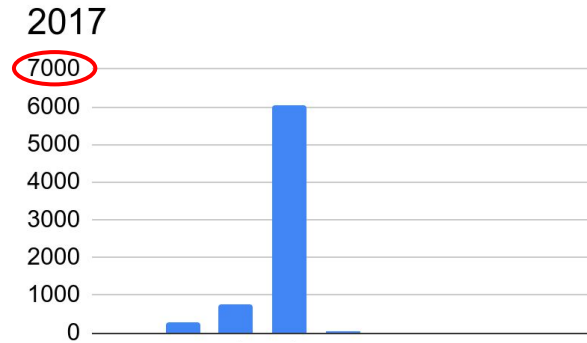


No industrial services (not uncommon...)

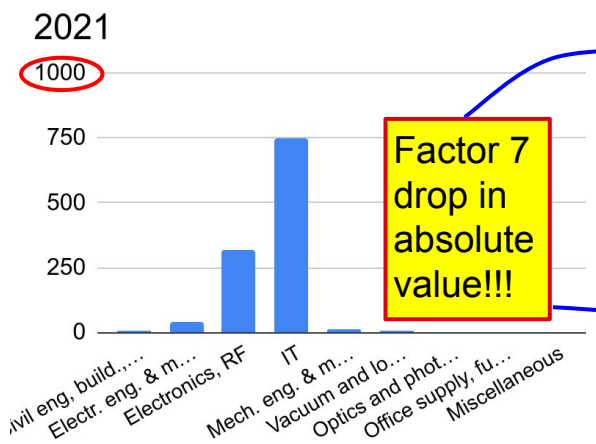
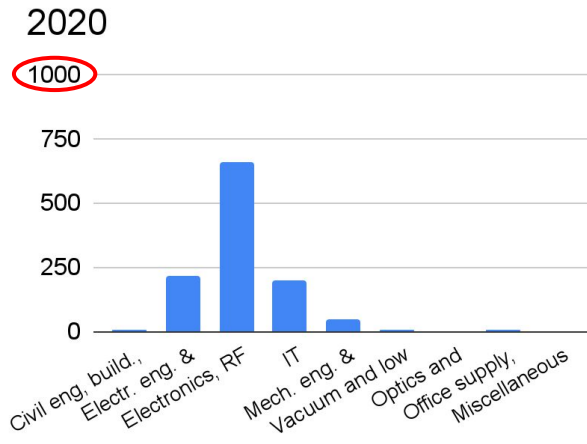
Dominated by 3 categories

- Electrical engineering (and magnets)
- Electronics and radiofrequency
- Information technology

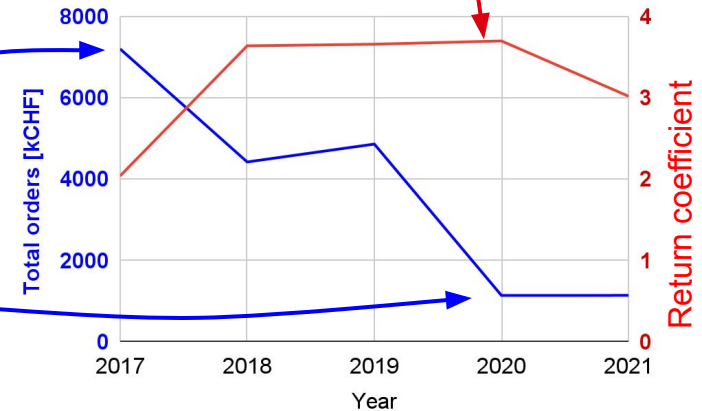
# Hungarian supplies vs. procurement category



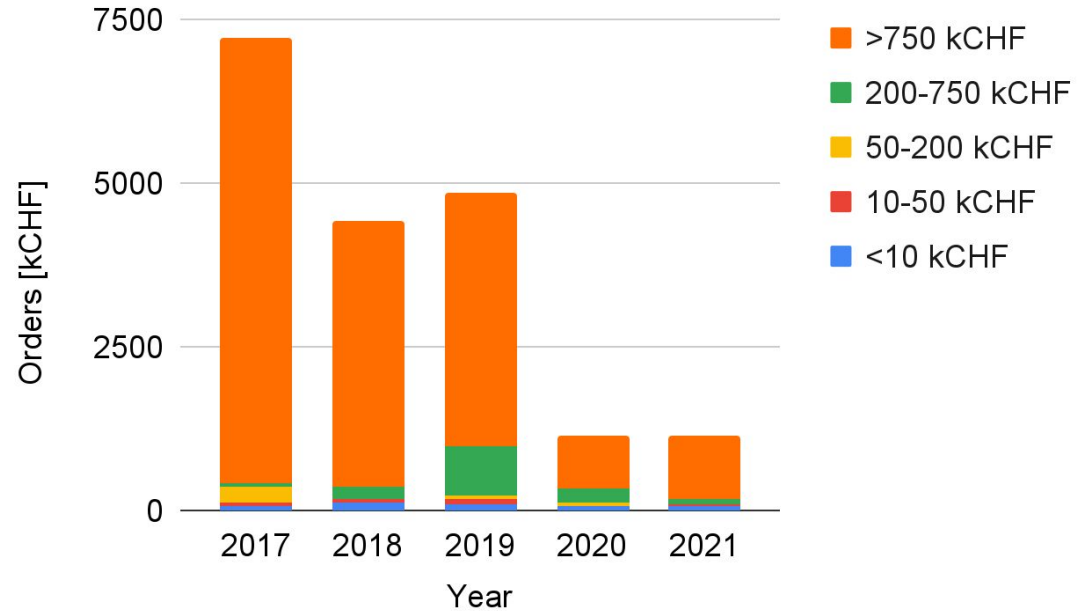
Hungary is still a well-balanced country, because industrial return coefficient is a 3-year average, lagging behind. But **the trend is very bad !**



Factor 7 drop in absolute value!!!



# Hungarian supplies vs. order range



Industrial return is dominated by large-value single orders of the far past...

- Wigner Data Centre (2013-2020) → **industrial return up to 2020**
- MVM Ovit – overhaul 66 kV protection (2012-2015)
- Areva – 24 kV switch gear (2011-2016)

These ended before 2017

# Feedback from companies

- High cost range: tendering process / market survey
  - Challenging, not easy, very thorough
  - A good experience, once done, easier next time
  - Wide coverage within Europe → very competitive
  - Willingness to participate is not always evident
- Low cost range: direct orders
  - Visibility is not evident (from CERN's supplier database)
  - Personal network, previous personal experience, R&D-like is more important
  - National links.... few Hungarian staff → few orders
- Tendering / technical documentation
  - Very precise
  - Drawings are superior to the usual level

# ILO activities

- Trying to follow new tenders, and look for companies
- Organizing a visit to ~10 Hungarian metal working companies
  - Originally planned before COVID
  - delayed by 2 years: October 2022, Pierre Moyret
- Organization of company visits to CERN (2+2 companies before/after COVID)
- Thematic Industry Days: Electrical cabinets/switchboards, power converters
  - 19-20 September, 2022
  - One Hungarian company was proposed, participated, expressed interest, initiated contacts

# Knowledge Transfer (Balázs Újvári)

- SOFTWARE

- Geant4: 3 Hungarian medical instrument companies adopted and learned
- Root TMWA: A company in the energy sector adopted it for big data analysis

- HARDWARE

- 2 companies interested in medipix/timepix
- Cancelled due to high IP rights cost (25 kCHF)



# Overview, conclusions

- Hungary is officially **well balanced**
- However, the **internal structure** of the industrial return is **unbalanced, unhealthy**
  - Low-range, non-tendered orders are negligible
    - these could be the basis for a “regular” relationship, providing a more stable figure
  - Industrial return is dominated by 3 high-range orders (in the far past)
    - leads to large fluctuations (will manifest in RC during coming years)
  - Last successful tender: 2012 (Wigner Data Center)
    - → effects extending up to 2020
- Industrial return dropped by a factor 7 in the last 5 years
- Reasons (?)
  - Few Hungarian staff
  - ILOs on a voluntary basis, having no time besides their main job
  - Companies need help & external motivation to start tendering, look for possibilities, etc