

# Nanotechnology Industries Association

## **The EU market for nanomaterials**

NIA Symposium  
23 November 2022

- Desk research (literature, survey, interviews)
- EU/EEA/Switzerland
- Nanomaterial = as defined by 2011/696/EU Recommendation
- Operators = NM producers, traders, downstream users

## Methodology

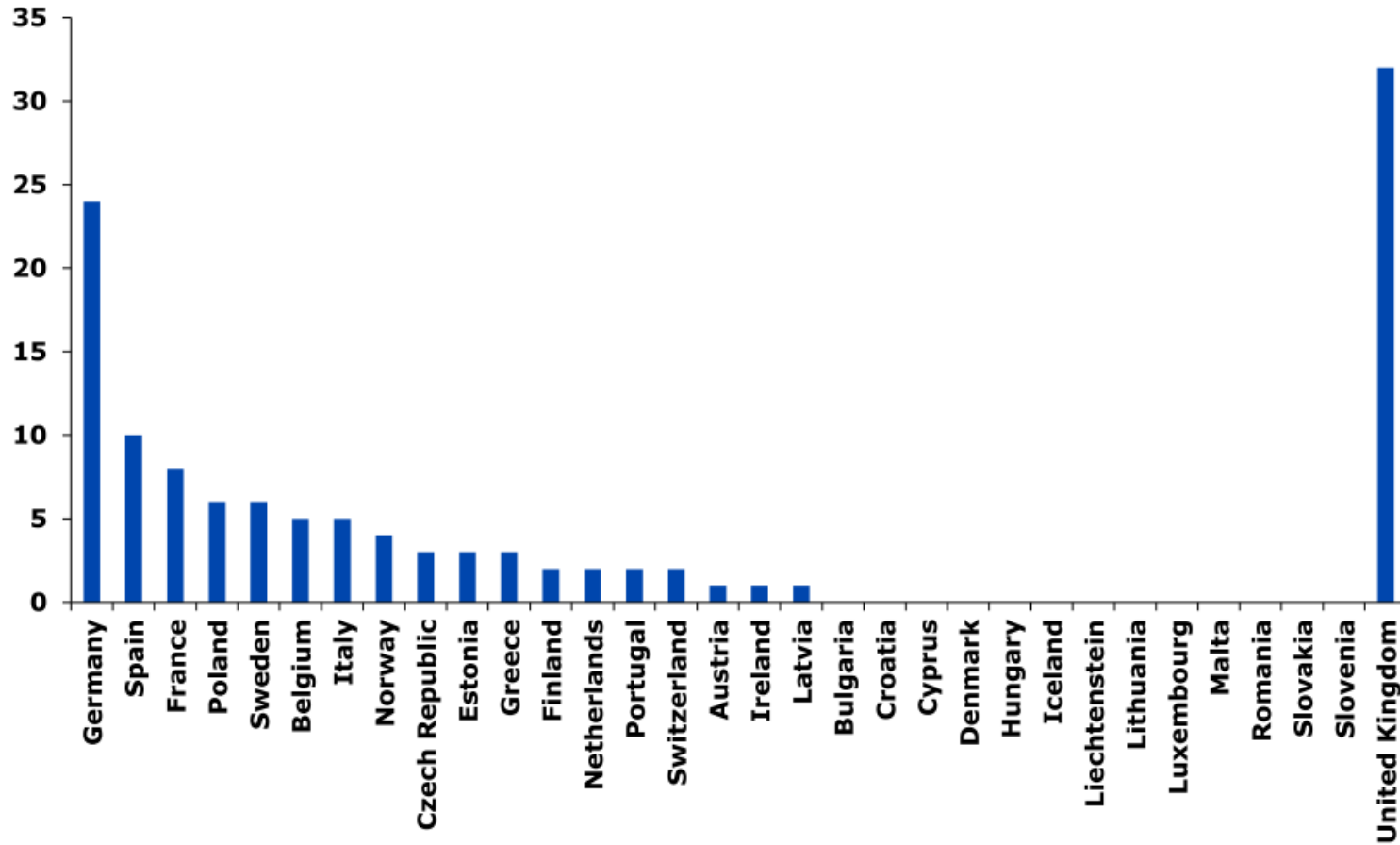
1. Identification of NMs on the EU market
2. Identification of market operators (no sources before 2015)
3. Analysis and discussion
4. Projections for the next five years (three scenarios, with basic scenario at 2020 → 141 kiloton / 5,205 million EUR)

Literature search (EUON, PubChem, ChEMBL, Google, Google Scholar, PubMed, Scopus, SciVal, EU Publications Office) to identify:

- Market operators
- Other players (regulatory consultants, end users, associations)

Identified players invited to:

- Fill in questionnaire
- Participate in interviews

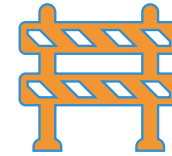


Source: Market study of the EU market on nanomaterials (2022)

1. Metal oxides (currently the largest)
2. Metals
3. Carbon-based NMs
4. Dendrimers
5. Nano-clays
6. Nanocellulose



- Technological **advancement**, incl. in manufacturing processes (driving **cost reduction**)
- Demand for **functional, lightweight, and affordable** state-of-the-art products
- Industry requirements
- The use of NMs in **medicine and personal care**
- **Public funding** on the development of novel complex and advanced NMs



- **Regulatory** landscape
- Lack of a **clear and unique definition** of NMs and NM-containing products throughout the EU, EEA and Swiss markets (even if sector-specific)
- Relatively negative **public opinion**
- Lack of **investment for scaling up** production
- Introduction of regulatory requirements for **polymers**, used in conjunction with nano-clays

## Assumptions

- UK not included
- COVID pandemic: minimal/no impact on NM market
  - Operations continued in construction, manufacturing, medicine
  - Operations affected in coatings, paintings, adhesives
- Porter's five forces:
  - Industry competition
  - Potential of new entrants
  - Power of suppliers
  - Power of customers
  - Threat of substitution

- Industry competition: very high
  - Substantial number of players in NM market
  - BUT majority SMEs/start-ups
  - Specific major players dominating the market = high competition
- Potential of new entrants: moderate
  - Investment costs, strict regulatory environment, novel properties needed to compete
- Power of suppliers: high
  - Set of major players, high market concentration with robust and reliable supply chains

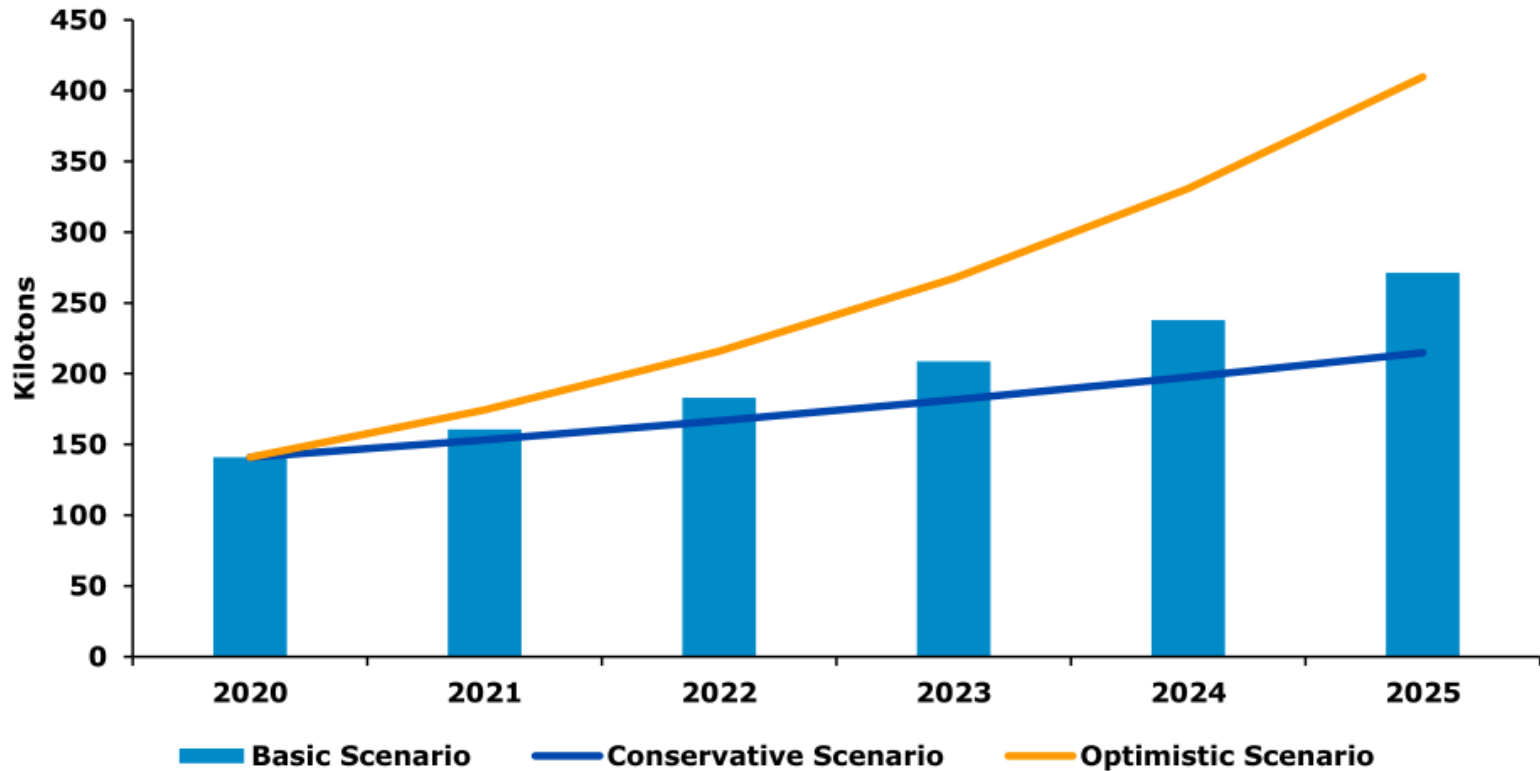


- Power of customers: moderate
  - Customer base expanding (small number of suppliers limits the potential to lower prices)
  - Consumer base expanding (prices change depending on sector)
- Threat of substitution: low
  - High costs to market entry
  - Will be sector-specific

# Market growth projections by segment

Segment	Conservative estimate	Basic estimate	Optimistic estimate
Metal oxides	7%	10.9%	15.53%
Metal	6.86%	10.5%	15.25%
Carbon-based NMs	20%	25.6%	99.7%
Dendrimers		17.65%	
Nano-clays	9%	11.3%	18.65%
Nanocellulose	14.24%	19.4%	22%

# Overall market growth projections



Source: Market study of the EU market on nanomaterials (2022)