

# The Role of STEM Education in Future Competence Needs of Chemical Industry

What's in it for us?

# The Finnish Chemical Industry in a Nutshell

We all need chemistry /

## We all need Chemistry

**There is no life without chemistry.** It is part of a good life and present in everything that we see, experience or feel around us or within ourselves. **Chemistry unites.** It is a constantly evolving natural discipline that unites different fields and people. **Chemistry is the most creative field in the world.** How can we ensure that there is enough food, natural resources and energy for the world's growing population? Clean water, renewable fuels and medicines all have to do with chemistry.



# And whom do we need?

- The chemical industry competence needs both VET-based and academic
- Global trends such as digitalization or circular economy will affect the sector and competence needs -> but competence will be needed also in the future!
- STEM Skills in the core!

# Why do STEM skills suddenly matter?

- The chemical sector competence needs are based on strong STEM skills -> chemists, engineers, laboratory specialists etc. will be needed for further developing the sector
- Finland has a strong background in PISA tests, the results from 2016 in both PISA and TIMSS however show a worrying, decreasing tendency in STEM competence
- STEM subjects are not popular among pupils
- Also political momentum: Ministry of Education and Culture shows increasing interest

# What can we do?

- Let's act together –co-operation is key!
- Support for STEM education from an early age
- Pupil's own choices in the 8th/9th grade crucial –let's help them not to choose away their own possibilities
- Resources for teacher education and further education
- Teachers and study councellors play a key role in this – how can the industry be a resource?
  
- How to find (more) ways to match industry and education?

Thank you –and  
let's be in touch!

[Anni.siltanen@kemianteollisuus.fi](mailto:Anni.siltanen@kemianteollisuus.fi)