

# ***Introduction to Industrial Communication***

Mathias Gregersen

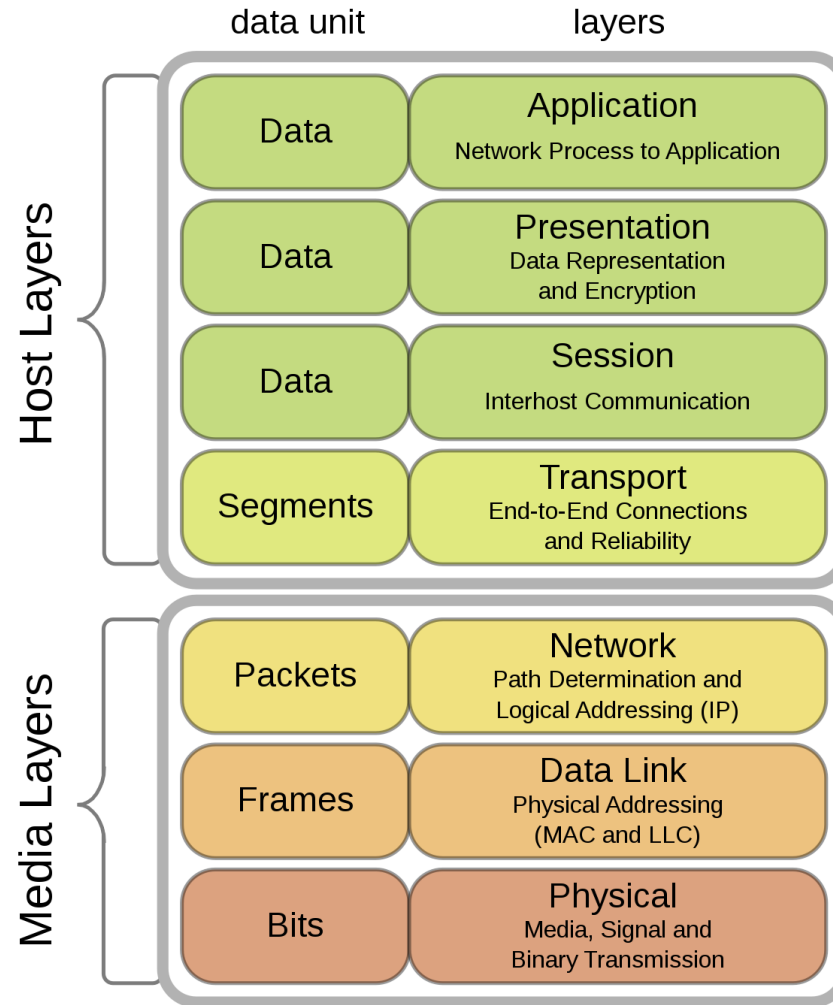
# Topics

- What protocols do you know?
- OSI model
- Fieldbus
- Profinet
- OPC-UA

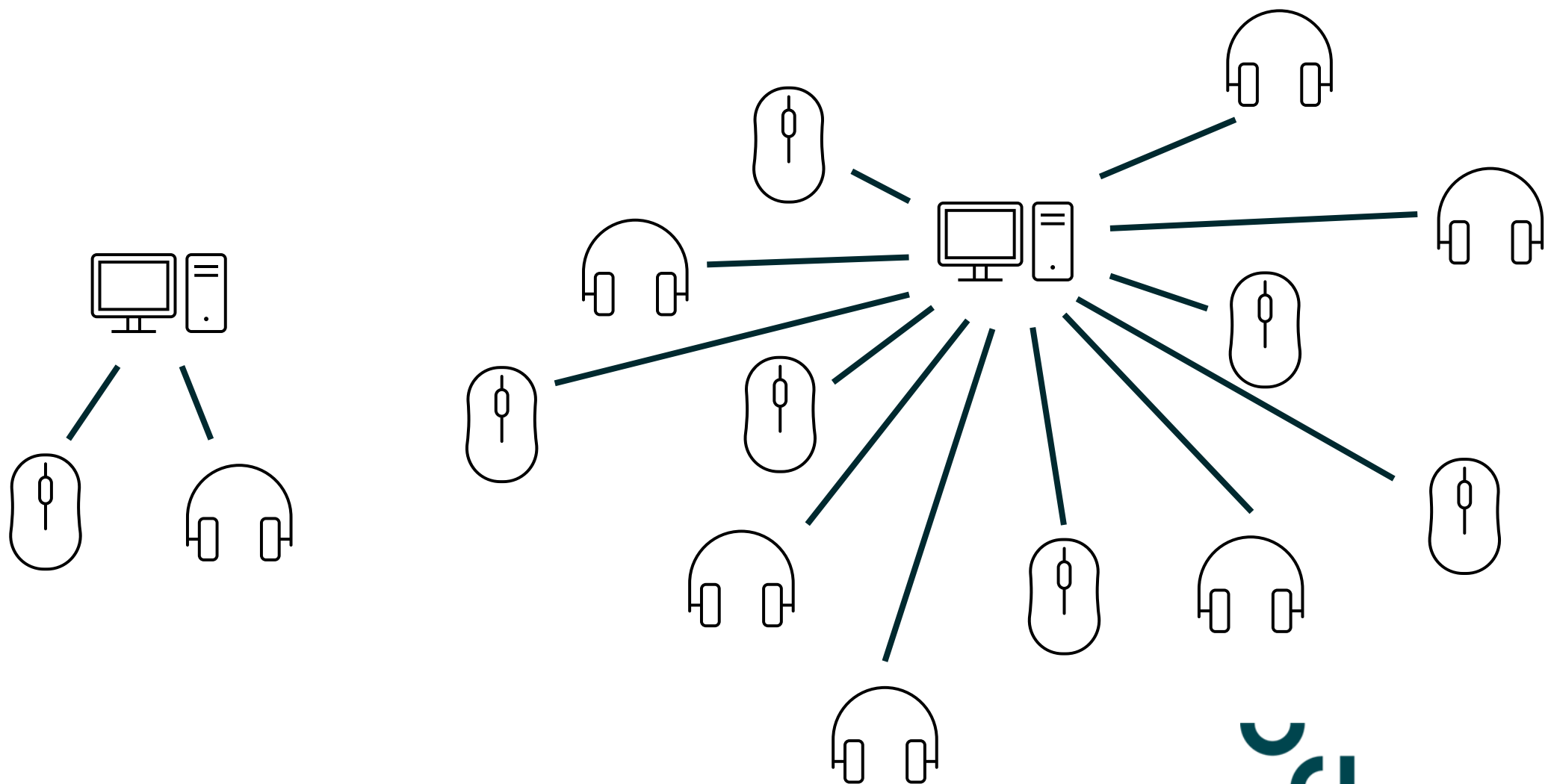
# What protocols do you know?



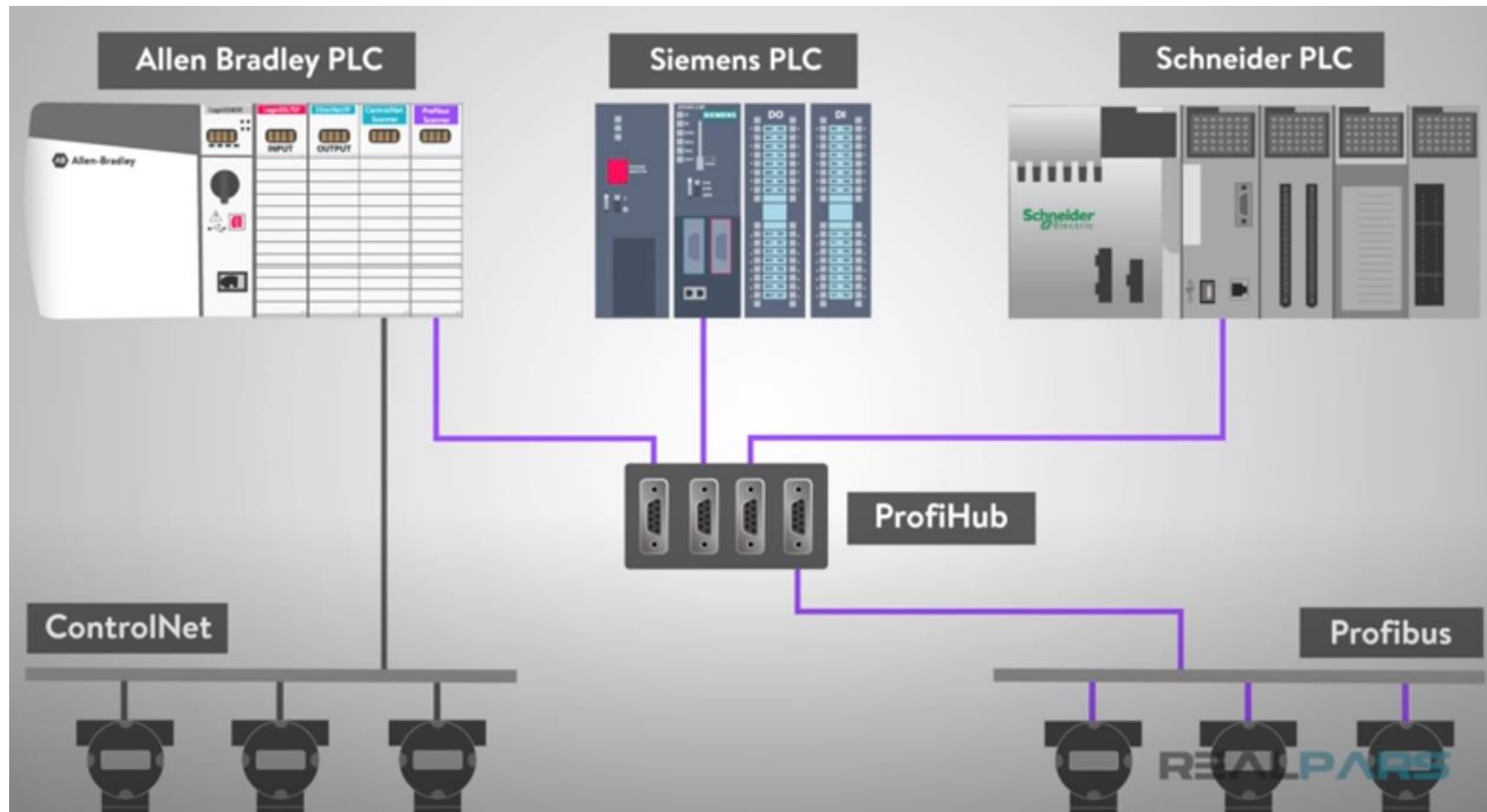
# OSI model



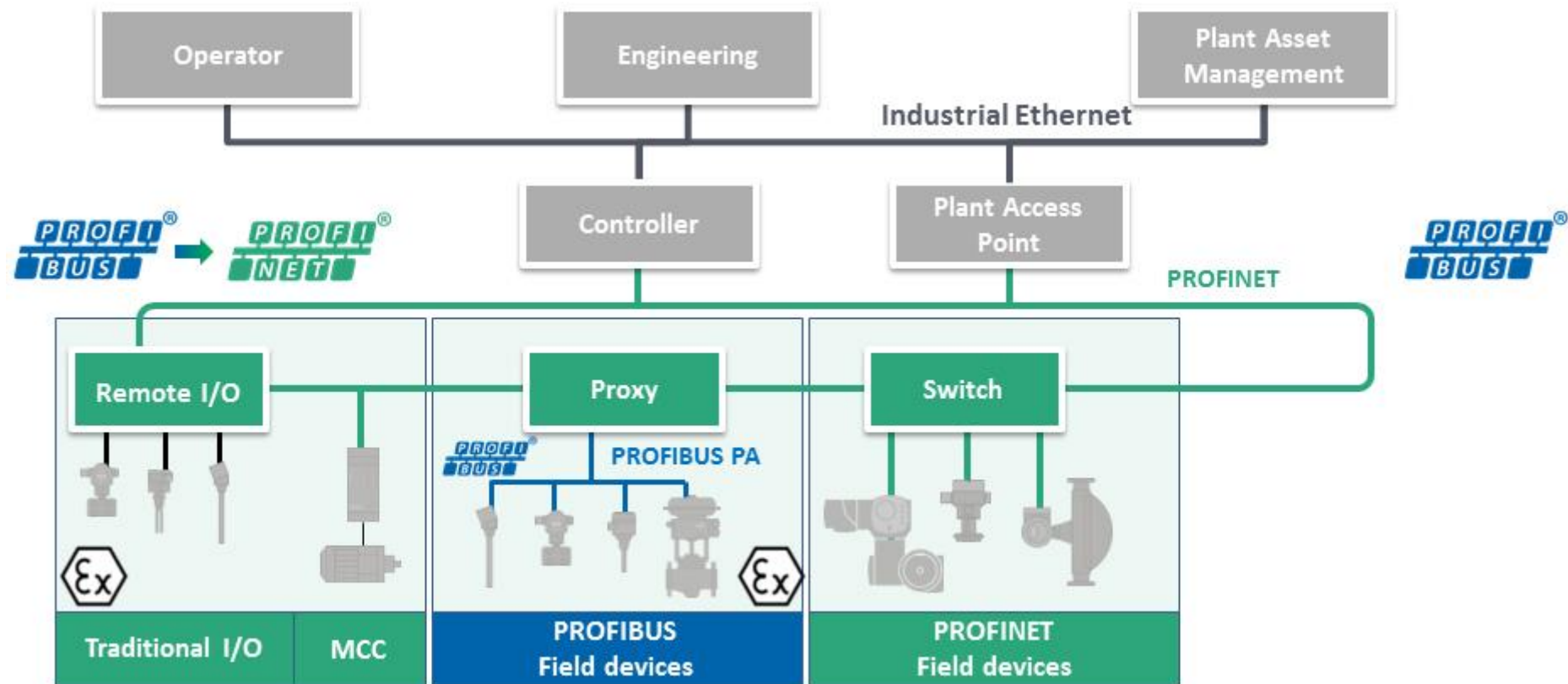
# The problem in industrial applications



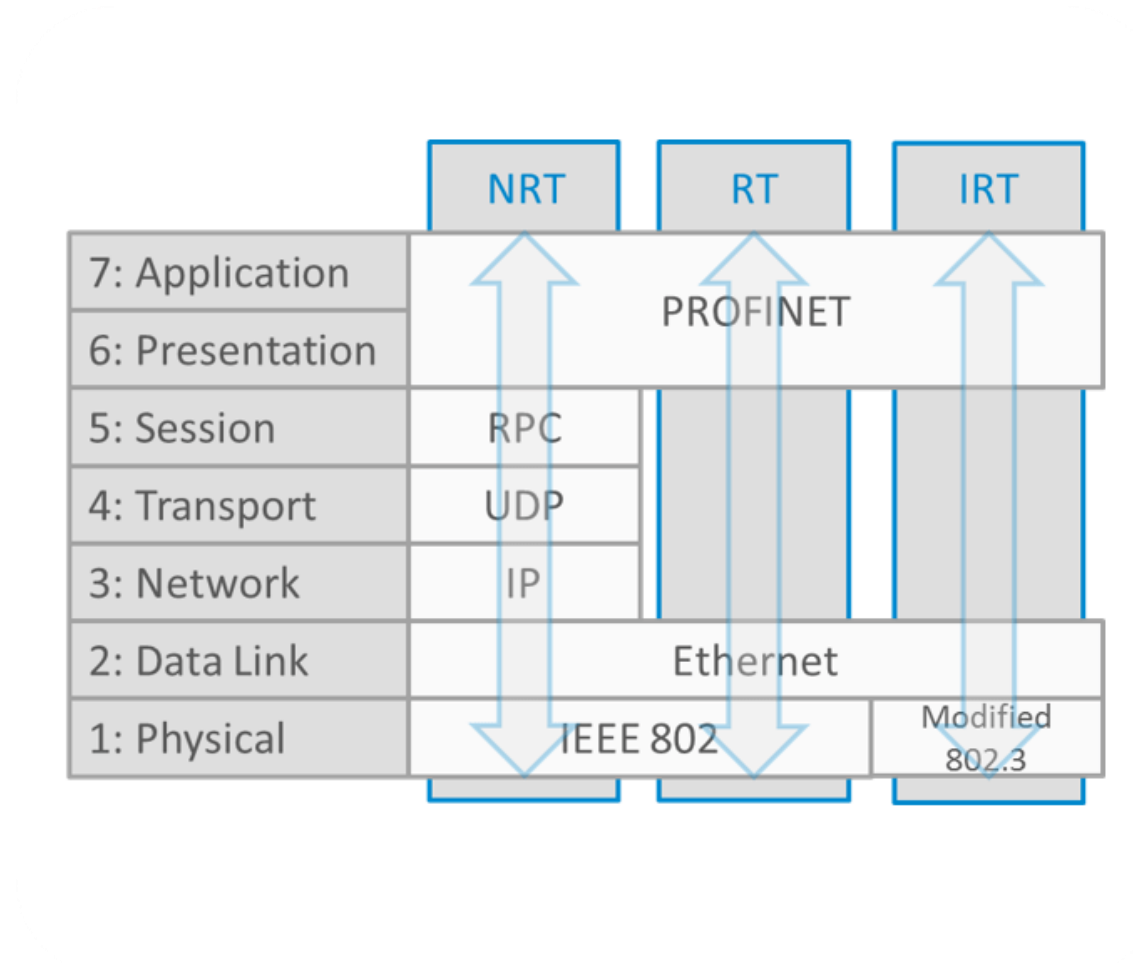
# Fieldbus



# Profinet



# Profinet in relation to OSI





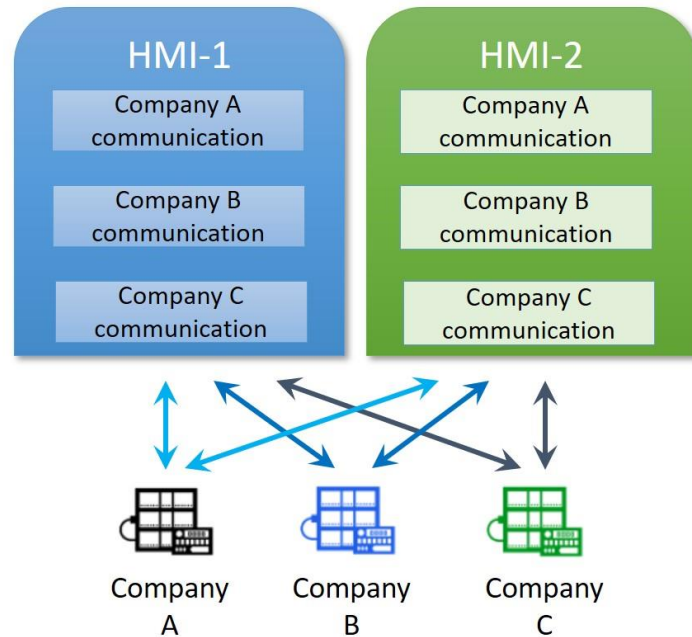
# Profinet GSD files



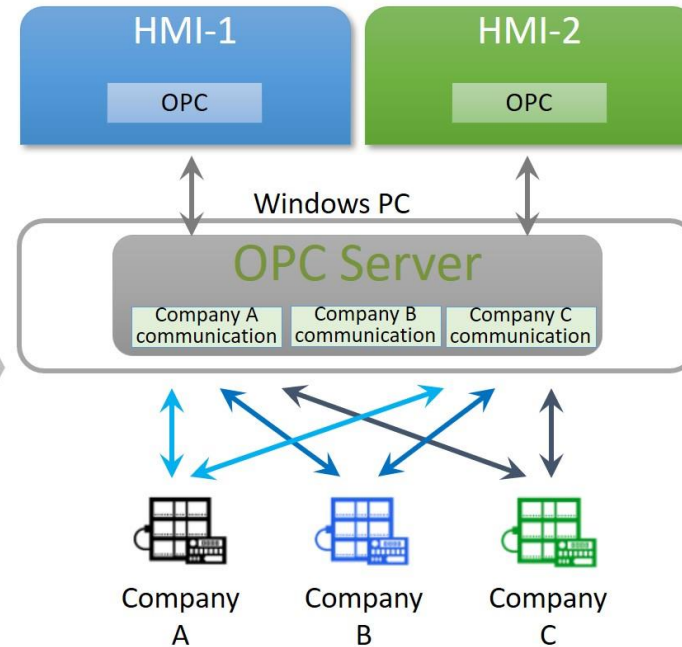
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    <Name TextId="TOK_TextId_Module_URI_Joints"/>
    <InfoText TextId="TOK_InfoTextId_Module_URI_Joints"/>
    <HardwareRelease Value="1.0"/>
    <SoftwareRelease Value="1.0"/>
  </ModuleInfo>
  <VirtualSubmoduleList>
    <VirtualSubmoduleItem ID="13" SubmoduleIdentNumber="0x0001" API="0">
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        <Input Consistency="All items consistency">
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        </Input>
      </IOData>
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        <InfoText TextId="TOK_InfoTextId_Module_URI_Joints"/>
      </ModuleInfo>
    </VirtualSubmoduleItem>
  </VirtualSubmoduleList>
</ModuleItem>
⋮
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# OPC UA

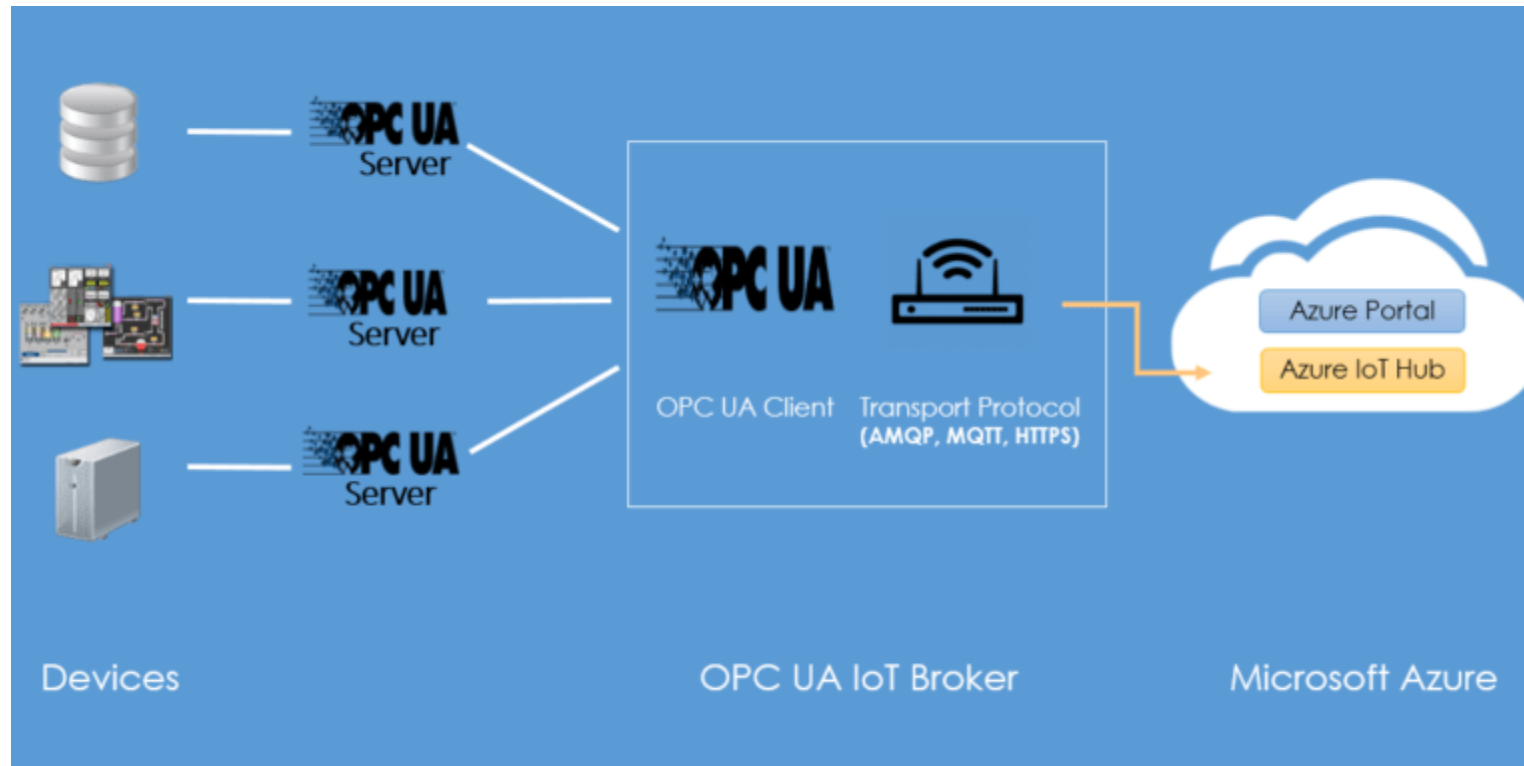
- Before OPC



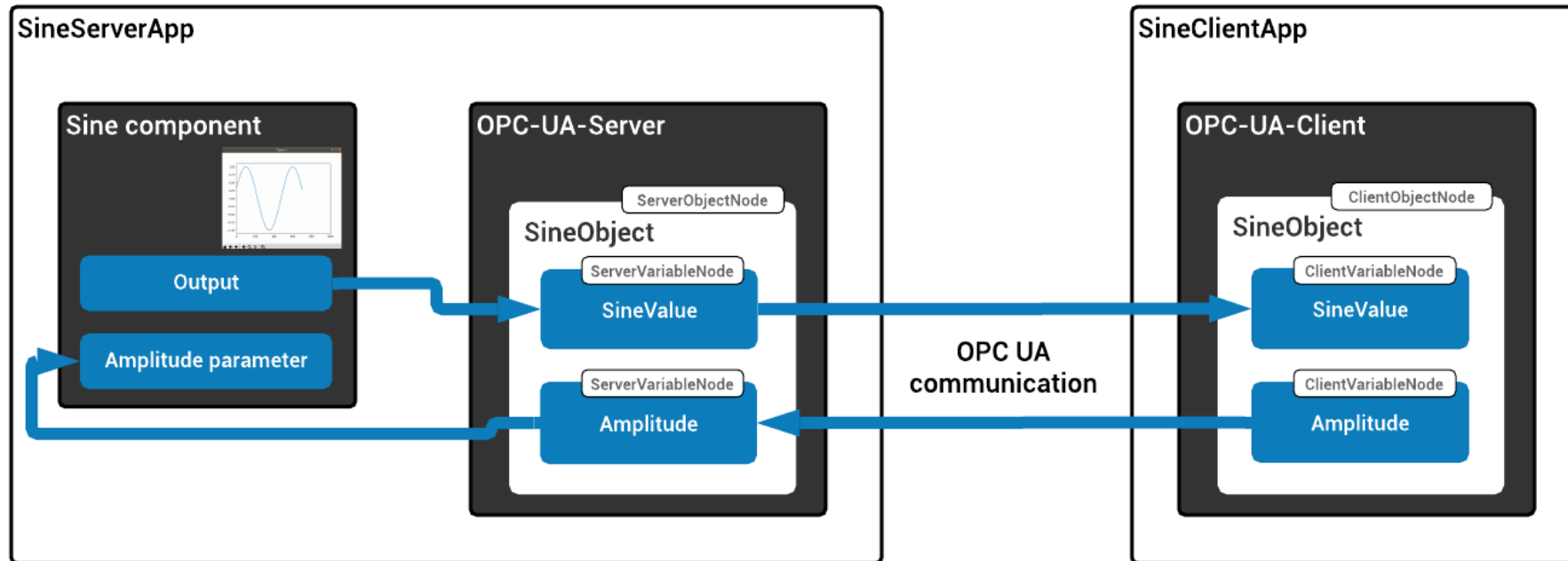
- First-generation OPC technology



# OPC UA – Servers and Clients



# OPC UA – Synchronizing data



# Exercises

Break and exercises!