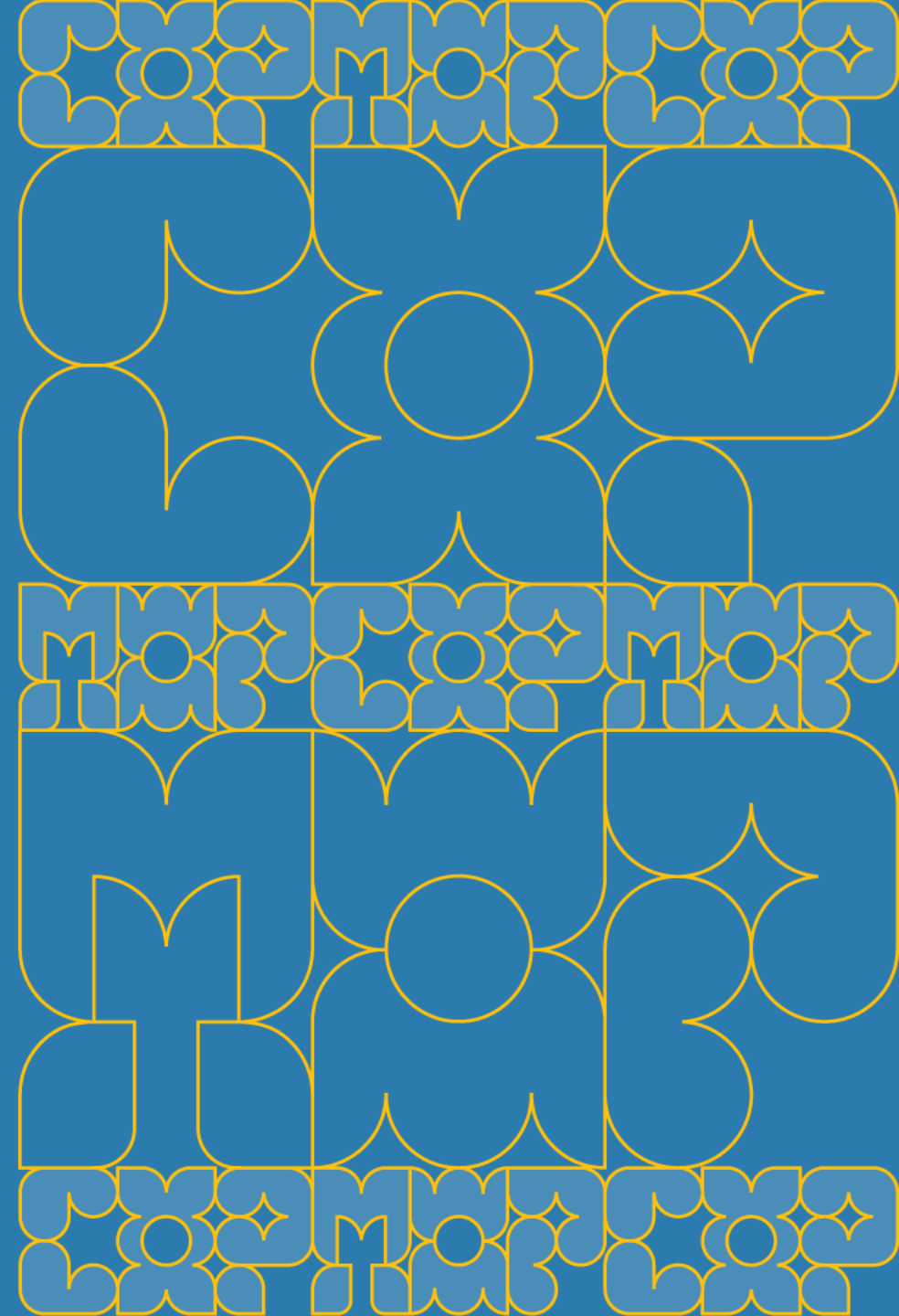


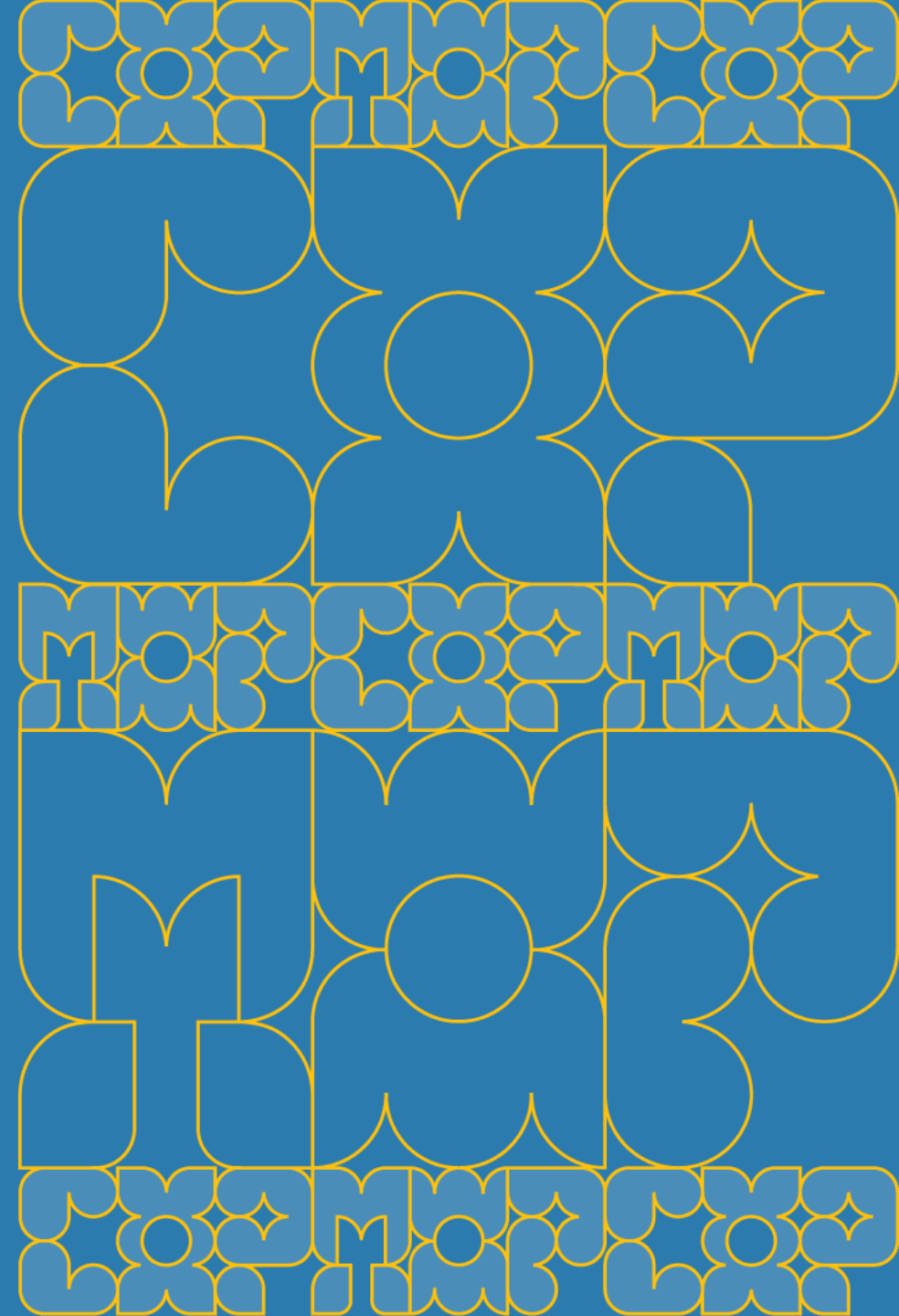
Welcome to the life-cycle refrigerant management workshop

BANGKOK, THAILAND



Session 3: Deep dive into life-cycle refrigerant management

Dealing with equipment



Session 3: Dealing with equipment

Facilitator: Anderson Alves, UNDP

Speaker: Francesca Cenni, BRS Secretariat

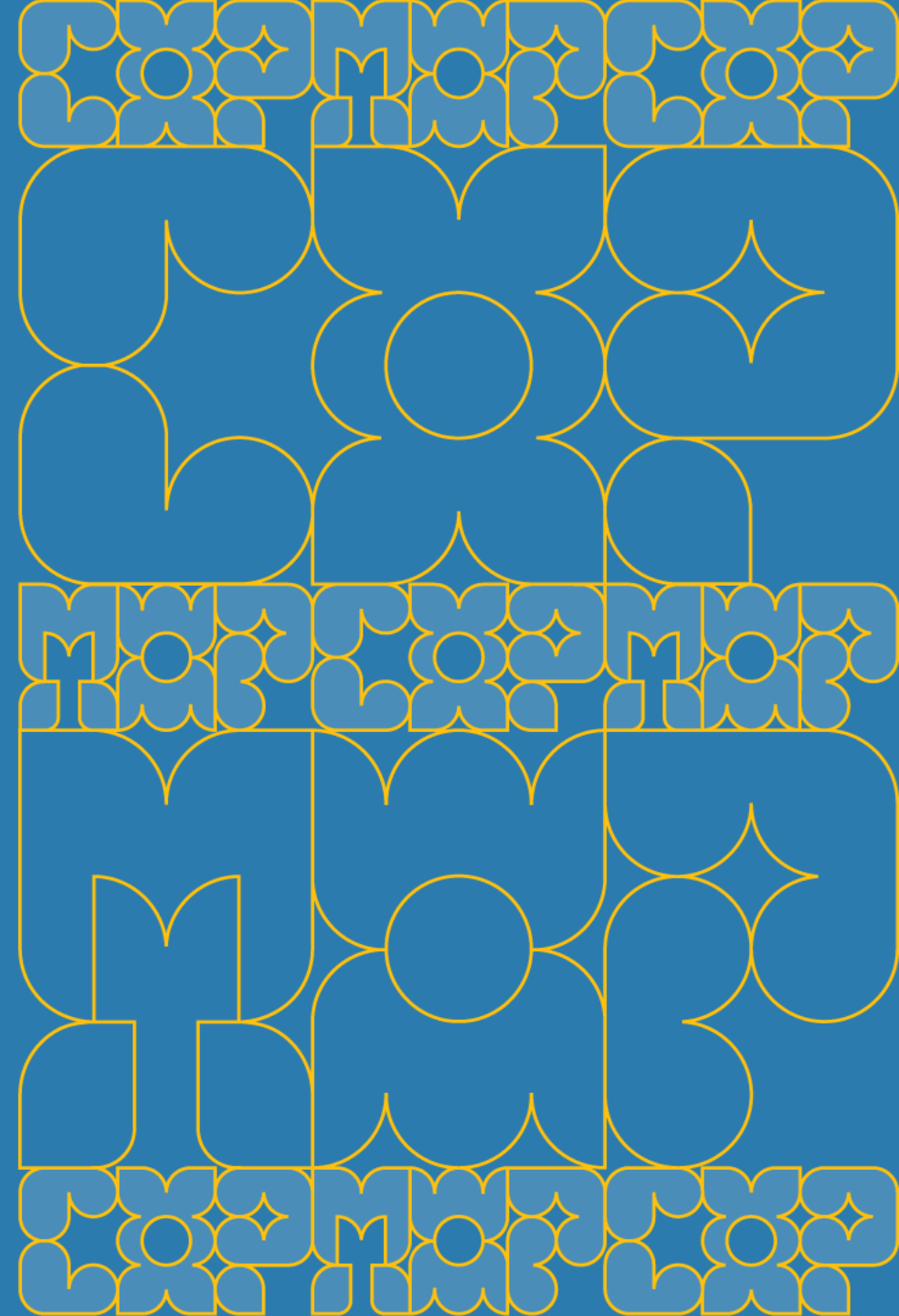
Experts: Anton Purnomo, Basel and Stockholm Conventions Regional Centre
Thiago Pietrobon, Ecosuporte Refrigerant Reclaim Center



Guidance on ESM of used and waste refrigerators, cooling and heating equipment

Partnership for Action on Challenges relating to E-waste (PACEII) – Basel Convention

Francesca Cenni
Programme management officer,
Secretariat of the Basel, Rotterdam and Stockholm
Conventions



The Partnership for Action on Challenges relating to E-waste (PACEII) -



Established in
2022 by
decision BC-
15/22



Goal: to enhance
the ESM of E-waste
with focus on five e-
waste streams,
including
refrigerators,
cooling and heating
equipment



Transfer of
knowledge and
technologies



Dissemination activities
Outreach
Education



Scale up pilot
projects with
the
involvement of
Private sector



Development of
guidance
documents on ESM
of used and waste
equipment of
refrigerators,
cooling and heating
equipment (among
others)



Membership

21 Basel and/or
Stockholm Regional
Centres

22 country
representatives
from Parties

19 private sector
representatives
(EERA, BIR, ITI,
etc.)

2 Governmental
bodies or agencies

8 International
Organizations (ITU,
UNEP, UNIDO,
UNITAR, etc.)

3 NGOs (WRF and
StEP initiative, etc.)

7 Observers (WHO,
WEEE Forum, ILO,
etc.)

**The Partnership
reaches out to
over 1000 entities**



Guidance on ESM of used and waste refrigerators, cooling and heating equipment



Part 1 Introduction



PART 2 Guidance on environmentally sound testing, refurbishment and repair of used and waste equipment of refrigerators, cooling and heating equipment



PART 3 Guidance on the environmentally sound management of waste equipment of refrigerators, cooling and heating equipment

Annex I: References

Annex II: Glossary of Terms

Annex III: Functionality tests for used and waste refrigerators, cooling and heating equipment



Part 1

- Hazardous substances in equipment – CFCs, HCFCs, HFCs
- Multilateral Environmental Agreements
- Sustainable financing for the ESM of used and waste equipment
- Prevention and minimization of the generation of waste equipment of refrigerators, cooling
- Energy efficiency, GHG emissions avoidance and carbon credits certification schemes



Part 2

Deciding the recovery pathway

Replacement of the gasses

Remarketing of repaired equipment



Part 3

- General treatment requirements
- Removal of Refrigerants and Blowing agents containing CFCs, HFCs and hydrocarbons from the refrigerators, cooling and heating equipment
- Preparation of equipment for further treatment (manual removal of materials)
- Mechanical treatment and some resulting materials:
 - Ferrous metals;
 - Non-ferrous metals;
 - Polyurethane foam;
 - Plastics;
 - Residual fraction





Recycling products

Granulated copper from cable stripping or the shredding of the copper parts



Inside of a fridge compressor. The copper is segregated either manually or mechanically and separated from the ferrous casing and then sent for smelting and recovery into new products



Shredded ferrous metals from the casing of a refrigerator



Recycling products



- Plastics removed from fridges with POPs content below the limits and so is classed as ‘non-hazardous’
- PU foam from a fridge recycling process. Some facilities may choose to pelletize or form brickettes.
- PU foam can be recovered as a ‘pure’ PU product for re-use or mixed with concrete or used as a thermal energy substitute or sent for incineration.





Join PACE II

To know more visit:

<https://www.basel.int/Implementation/TechnicalAssistance/Partnerships/PACEII/Overview/tabid/9284/Default.aspx>

Contact the BRS Secretariat
Francesca.cenni@un.org

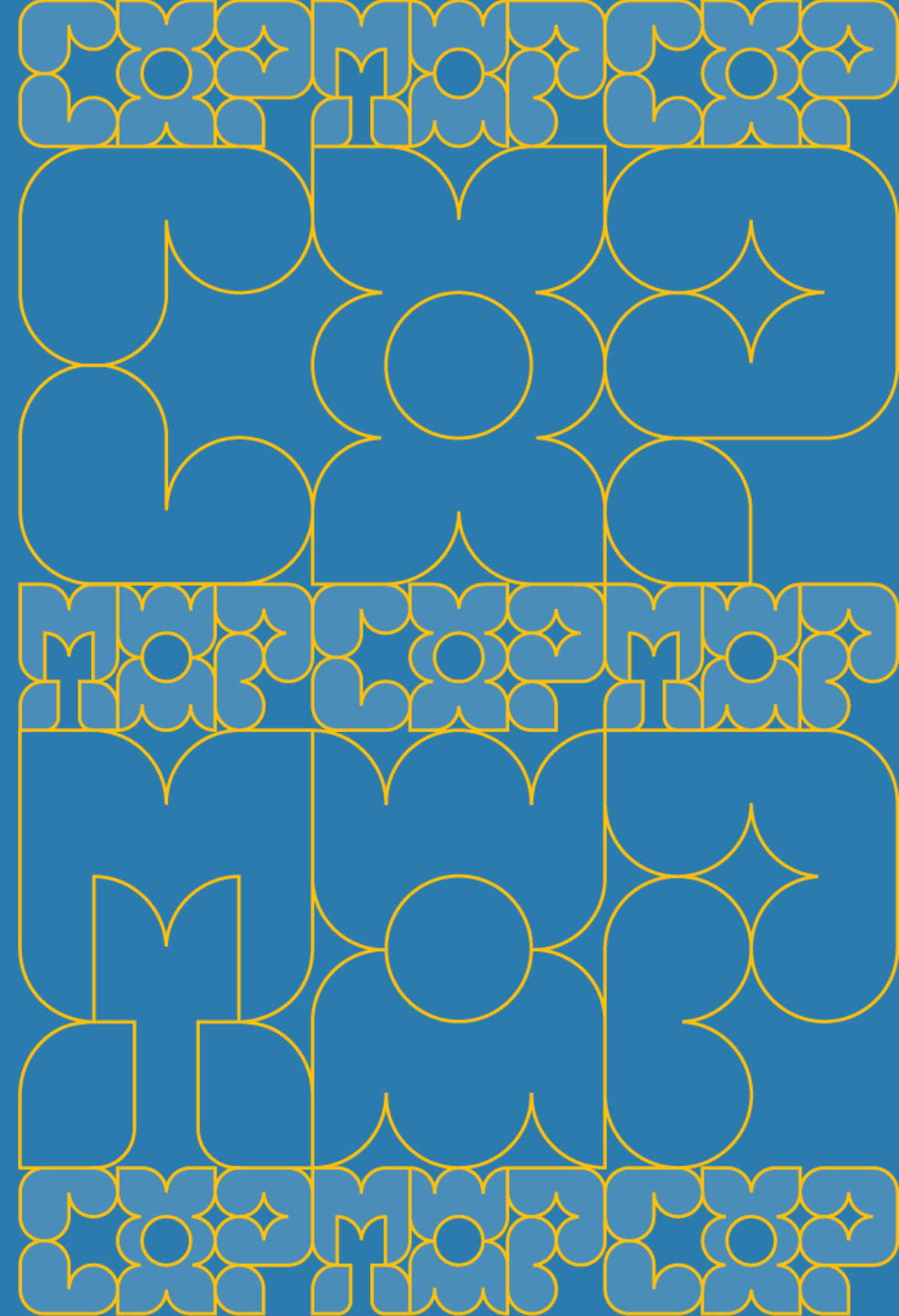
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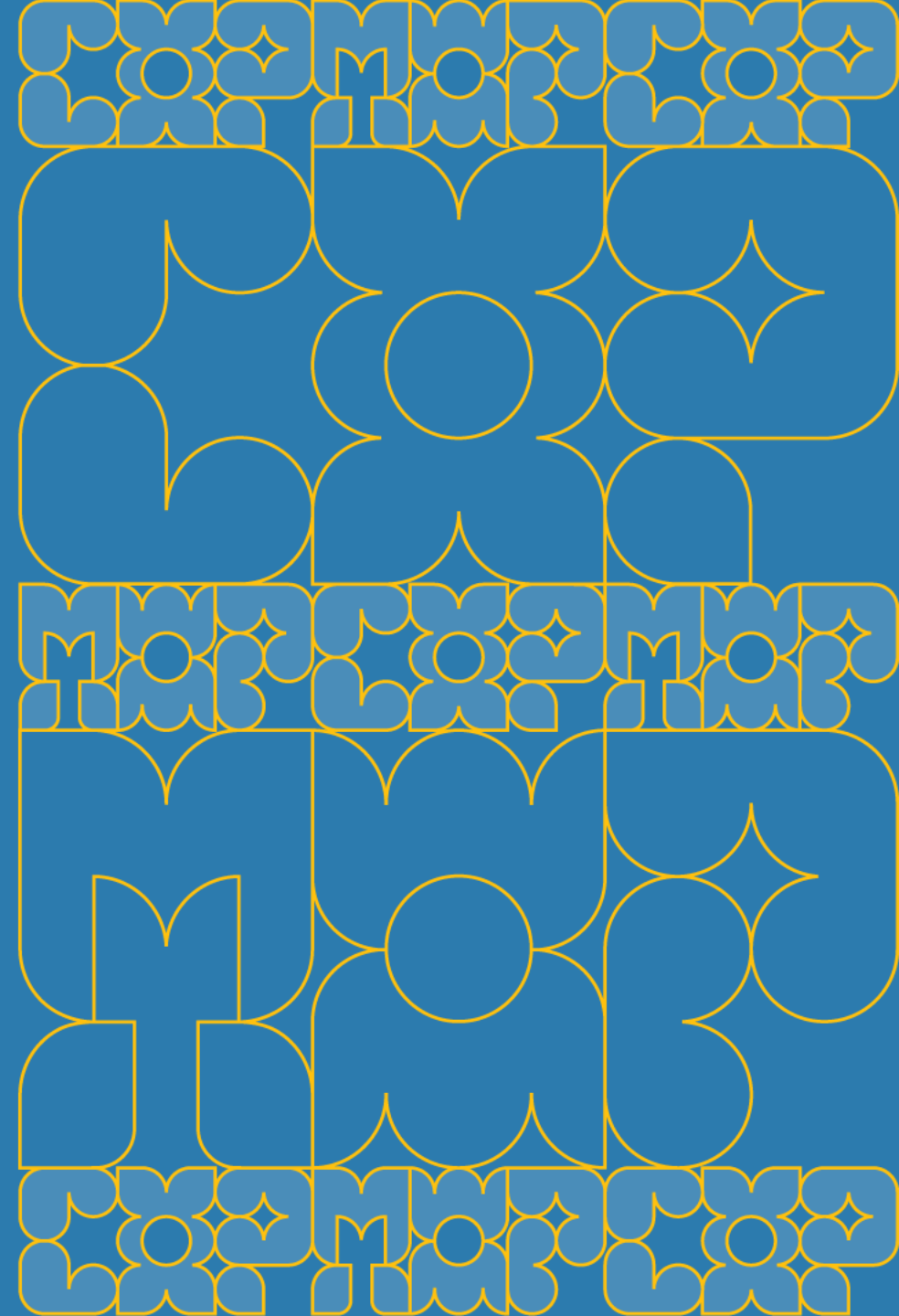
LIFE-CYCLE REF
MANAGEMENT W
BANGKOK



Discussion

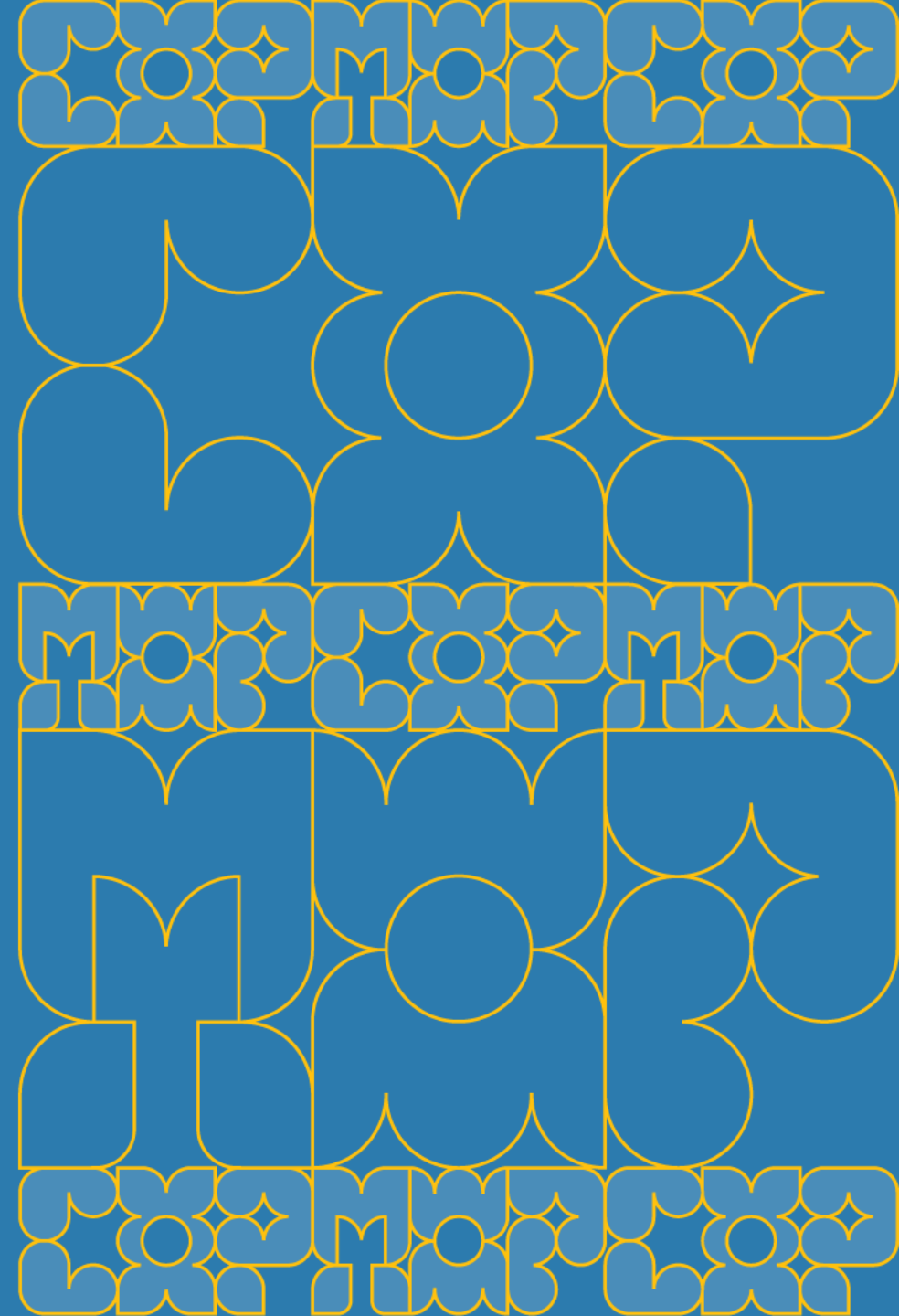


Lunch break (13:00-14:30)



Session 3: Repeat session

Deep dive into life-cycle
refrigerant management



Coffee break (15:45-16:15)

