

PS1: Cybersecurity as Enabler for Managing the Era of Cloudification, Softwarization and Artificial Intelligence

Marc-Oliver Pahl, IMT Atlantique, France

Gabi Dreo Rodosek, Bundeswehr University Munich, Germany

Aiko Pras, University of Twente, The Netherlands

Stuart Clayman, University College London, UK

Sécurité des infrastructures critiques



cyberCNI.fr/





Welcome CyberSEC

Modus Operandi

We prepared a journey through our topic “Cybersecurity as Enabler for Managing the Era of Cloudification, Softwarization and Artificial Intelligence” for you. We will follow this journey AND

WELCOME YOUR QUESTIONS at ANY TIME.

If you have a question, please raise your hand or ask it in the chat.

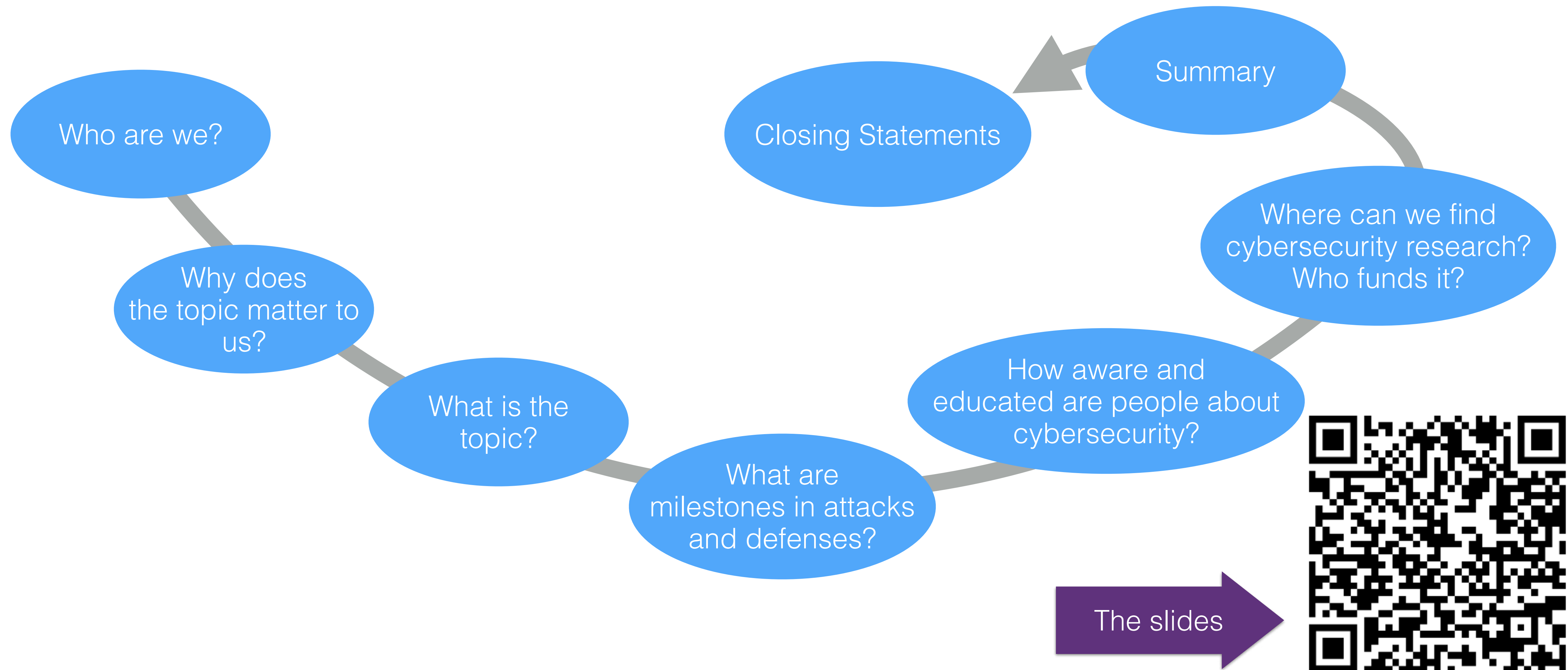


Our planned journey (that you can deviate at any time)

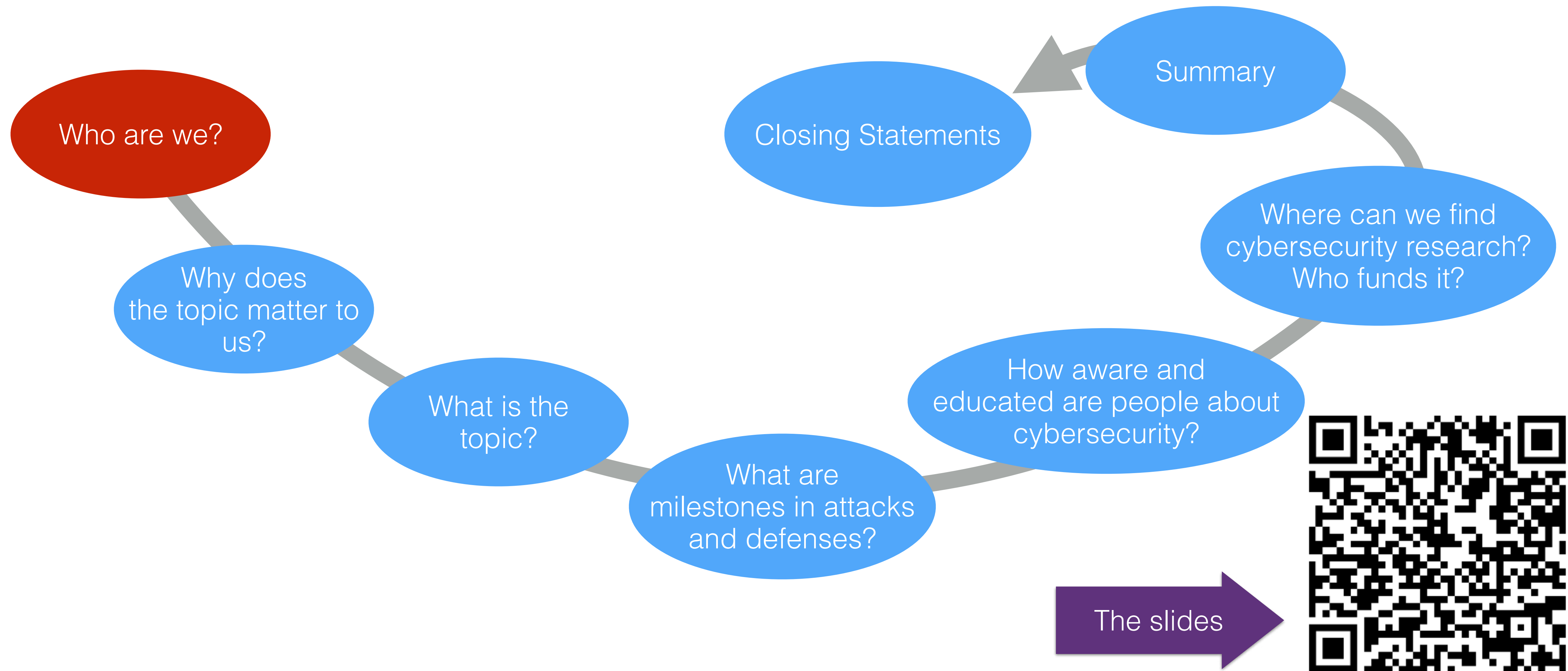
- 13h30 Presentation of Panelists
- 13h35 Motivation
- 13h50 Defining the topic
- 14h00 Attacks and Defense
- 14h10 Awareness & Education
- 14h30 Research Venues & Funding opportunities
- 14h40 Summary
- 14h45 Outlook / closing statement (5 min each)



Our planned journey (that you can deviate at any time)



Our planned journey (that you can deviate at any time)



Gabi Dreo Rodosek

Prof. Dr. Gabi Dreo Rodosek is the Founding Director of the Research Institute CODE (Cyber Defence), holds a Chair for Communication Systems and Network Security at the Bundeswehr University Munich, is the coordinator of the EU H2020 project CONCORDIA and has several supervisory and advisory mandates of various companies such as Giesecke+Devrient GmbH, BWI GmbH and Siltronic AG.

She is furthermore a member of the WEF Global Future Council on Cybersecurity, member of the Digital Council of the Ministry of Defence, member of the Board of Directors of the Munich Security Network, member of the Cyber Security Advisory Council of Lufthansa, member of the Data Protection Advisory Council of the Deutsche Telekom.

Prof. Dreo studied computer science at the University of Maribor, Slovenia, was awarded a PhD with summa cum laude in 1995 from the Ludwig-Maximilians University in Munich as well as a habilitation in 2002 from the Ludwig-Maximilians University in Munich. In 2016 she was awarded the European Medal from the Bavarian Minister for European Affairs and International Relations Dr. Beate Merk.



Aiko Pras

Aiko Pras is full professor in the area of Network Operations and Management with a focus on Internet Security at the Faculty of Electrical Engineering, Mathematics and Computer Science of the University of Twente, the Netherlands. He is member of the Design and Analysis of Communication Systems Group (DACs). In 1995 he received a Ph.D. degree from the same university for his thesis titled "Network Management Architectures" and in 2013 he was appointed as full professor. In 2016 he has been honoured with the IFIP/IEEE "Salah Aidarous Memorial Award" for providing unremitting service and dedication to the IT and Telecommunications Network Operations and Management community.

Aiko is interested in questions like Digital Independence and Internet security, with a research focus on DDoS attacks and DNS security. His approach is usually based on measurements.

He has been research coordinator of the EU Concordia project, which is one of the four Cybersecurity Competence Networks within Europe, "Beirat" of the CODE Cybersecurity research institute in München, member of the newly established "Samenwerkingsplatform cybersecurity kennis en innovatie" (the new dcypher), the ACademic Cyber Security Society (ACCSS) as well as scientific director of the Twente University Centre for Cybersecurity Research (TUCCR).

He has chaired the IFIP Technical Committee on "Communications Systems"(IFIP-TC6, 2013-2017), as well as the EU Future Internet cluster (2012-2014). He has been coordinator of the European Network of Excellence on "Management of the Future Internet" (FLAMINGO, 2012-2017).

He has participated in many European and Dutch research projects, as member, evaluator and as reviewer. He has contributed to research and standardization activities as a founding member of the Internet Research Task Force (IRTF) Network Management Research Group (NMRG) and as RFC author. He has been editor of the IEEE Communications Magazine series on "Network & Service Management", associate editor of the International Journal of Network Management (IJNM), and Editorial Advisory Board member for the Journal of Network and Systems Management (JNSM). He is Steering Committee member of the IFIP/IEEE NOMS and IM Symposia (NISC), CNSM, IFIP Networking as well as TMA.



Stuart Clayman

Stuart Clayman received his PhD in Computer Science from University College London in 1994. He is currently a Principal Research Fellow at UCL EEE department, and he has worked as a Research Lecturer at Kingston University and at UCL.

He co-authored over 60 conference and journal papers. His research interests and expertise lie in the areas of software engineering and programming paradigms; distributed systems; virtualised compute and network systems, network and systems management; sensor systems and smart city platforms, and artificial intelligence systems.

He is looking at new techniques for large-scale sensor systems in Industry 4.0, and at end-to-end systems for better video delivery. He also has extensive experience in the commercial arena undertaking architecture and development for software engineering, distributed systems and networking systems. He has run his own technology start-up in the area of NoSQL databases, sensor data, and digital media.



Marc-Oliver Pahl

Bio: Prof. Dr. Marc-Oliver Pahl heads the Chair of Cybersecurity for Critical Networked Infrastructures (<https://cybercni.fr/>) at IMT Atlantique in Rennes, France. He is an adjunct professor of Carleton University in Canada. Marc-Oliver also heads the IoT Smart Space research team (<https://s2o.net.in.tum.de/>) at the Chair for Network Architectures and Services at Technical University of Munich.

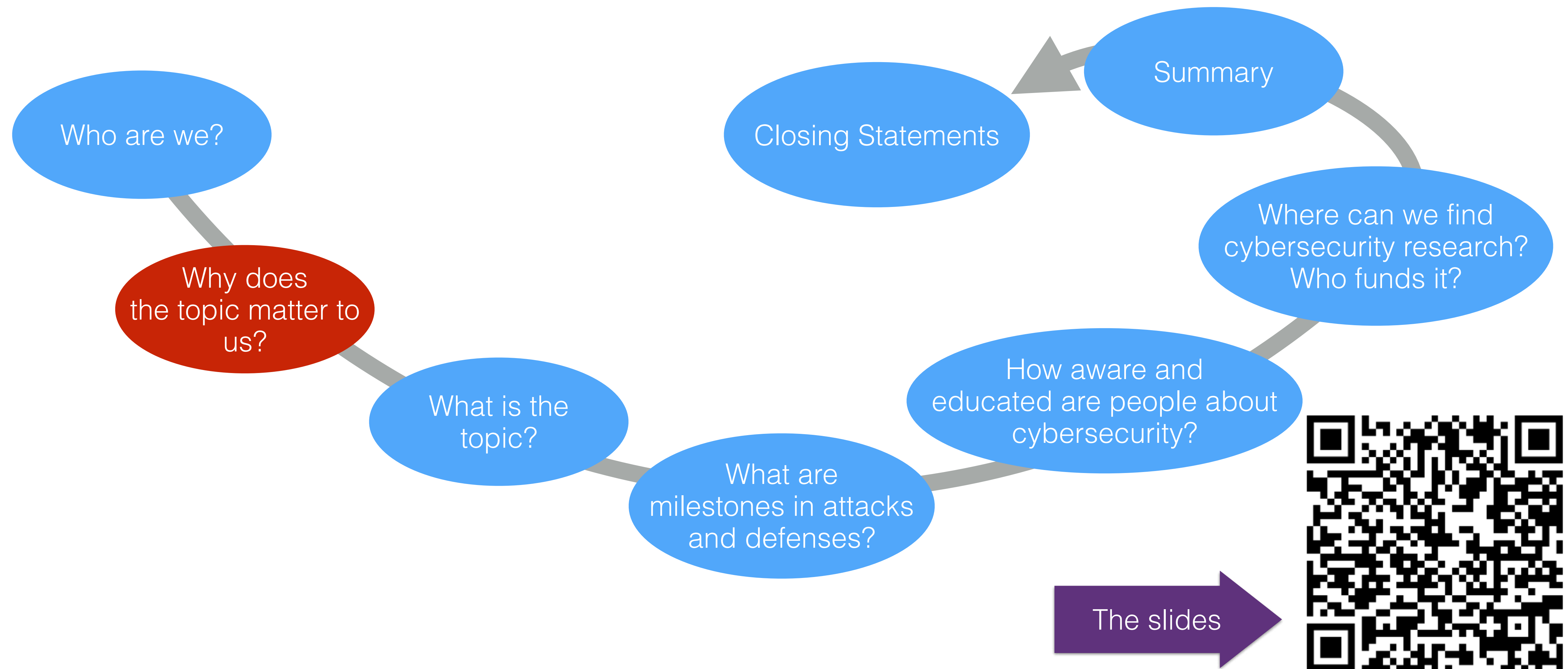
Marc-Oliver is Vice President of the German Chapter of the Association for Computing Machinery (ACM) (<https://germany.acm.org/>). He heads the Future Education activities of the German-French Academy for the Industry of the Future (<https://future-industry.org/>).

Marc-Oliver's research focus is on a holistic approach to cybersecurity. He works on security-by-design, anomaly detection, human-in-the-loop, and automation. His goal is making cybersecurity manageable, resulting in highly resilient and reliable systems. Marc-Oliver publishes regularly in the network and service management and security communities.

Marc-Oliver is an experienced teacher and an eLearning pioneer. He holds several teaching-related awards. Marc-Oliver developed various teaching concepts and teaches continuously at university level since 2004. Besides specialized audience, he continuously runs activities for fostering the dialog between science and society, including <https://talk.cybercni.fr>, <https://future-iot.org>, and <https://being-human-with-algorithms.org>.



Our planned journey (that you can deviate at any time)

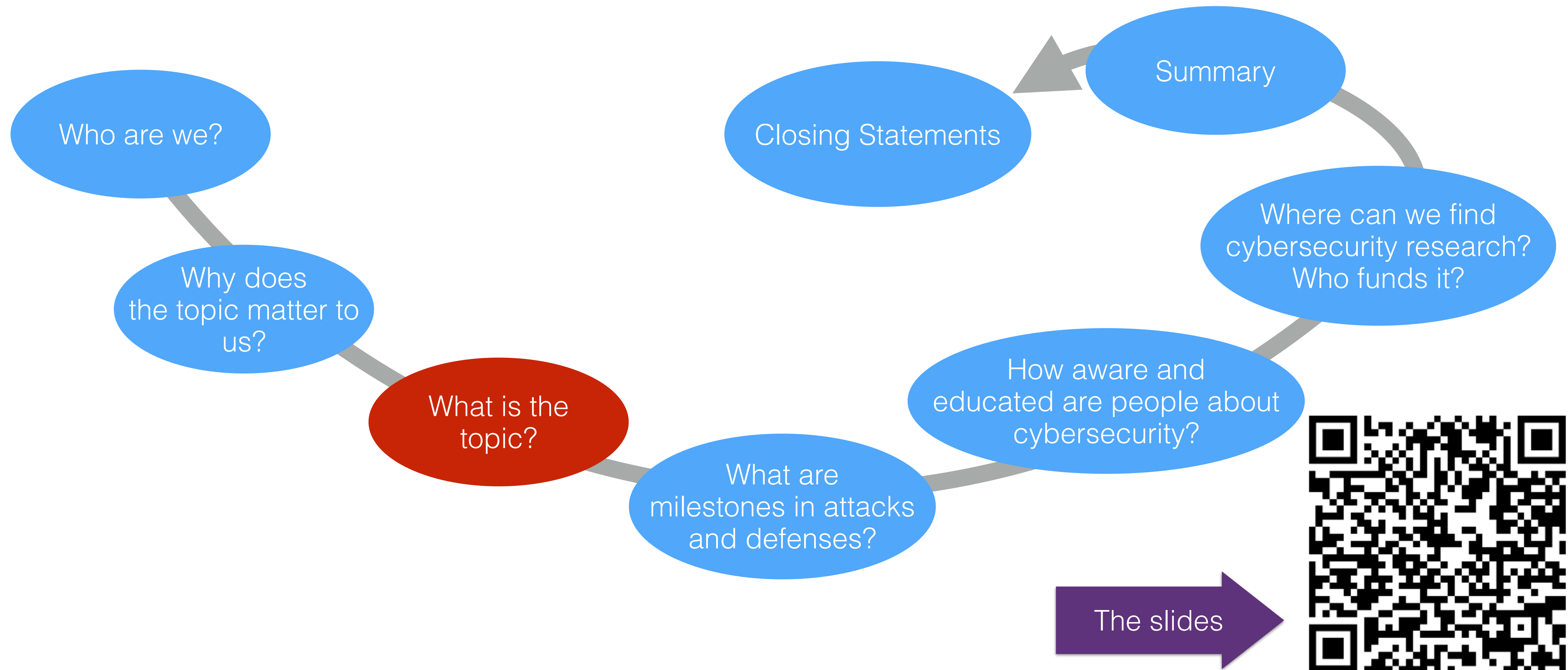


Motivation (~13h35-13h50)

- What is your journey towards cybersecurity? (~2min each incl. mop)
 - From where did you start?
 - Why did you choose cybersecurity?
 - What are your current activities?
- Why is it a good idea (or not) having a cybersecurity panel at a NOM community event? / What is the importance of cybersecurity in today's algorithmic world?



Our planned journey (that you can deviate at any time)

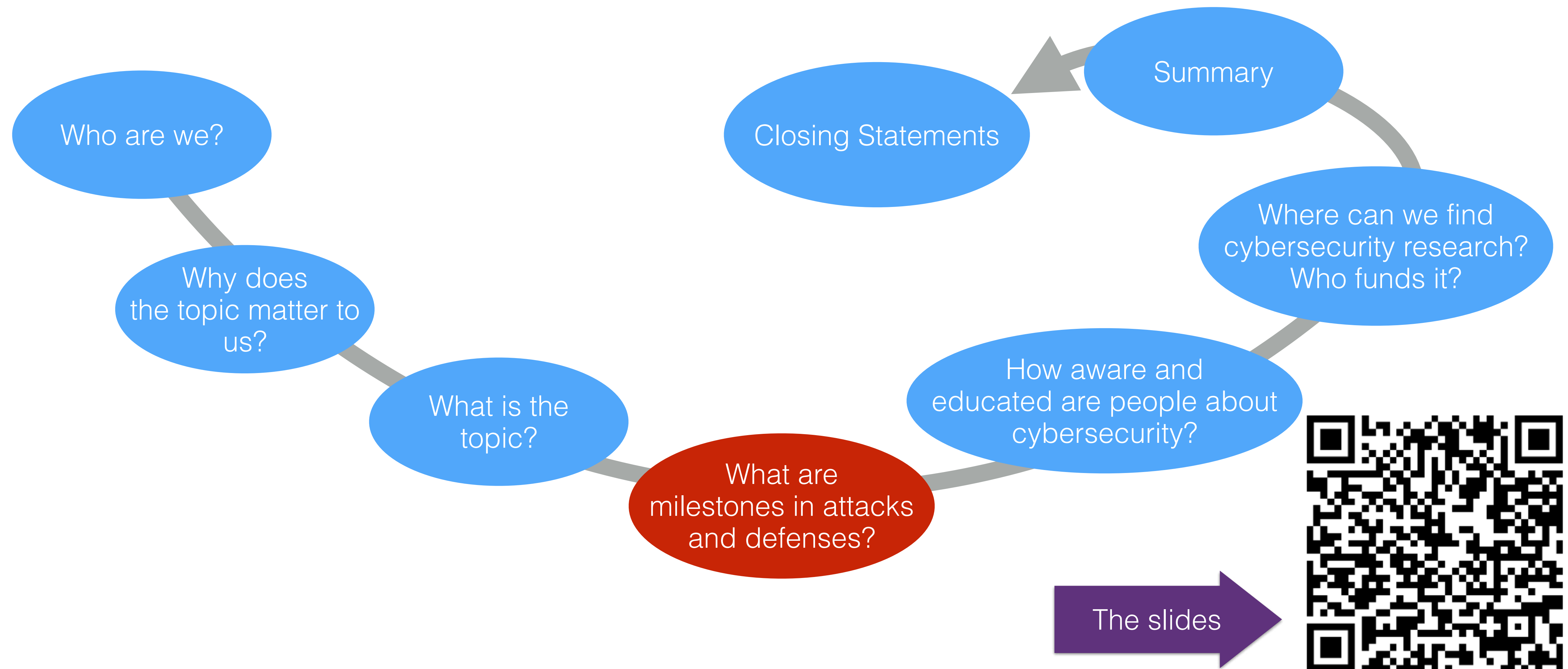


Defining the topic (~ 13h50-14h00)

- What is your definition of cybersecurity?
- Over the past years, how did your understanding of cybersecurity and its relevance change for you?



Our planned journey (that you can deviate at any time)

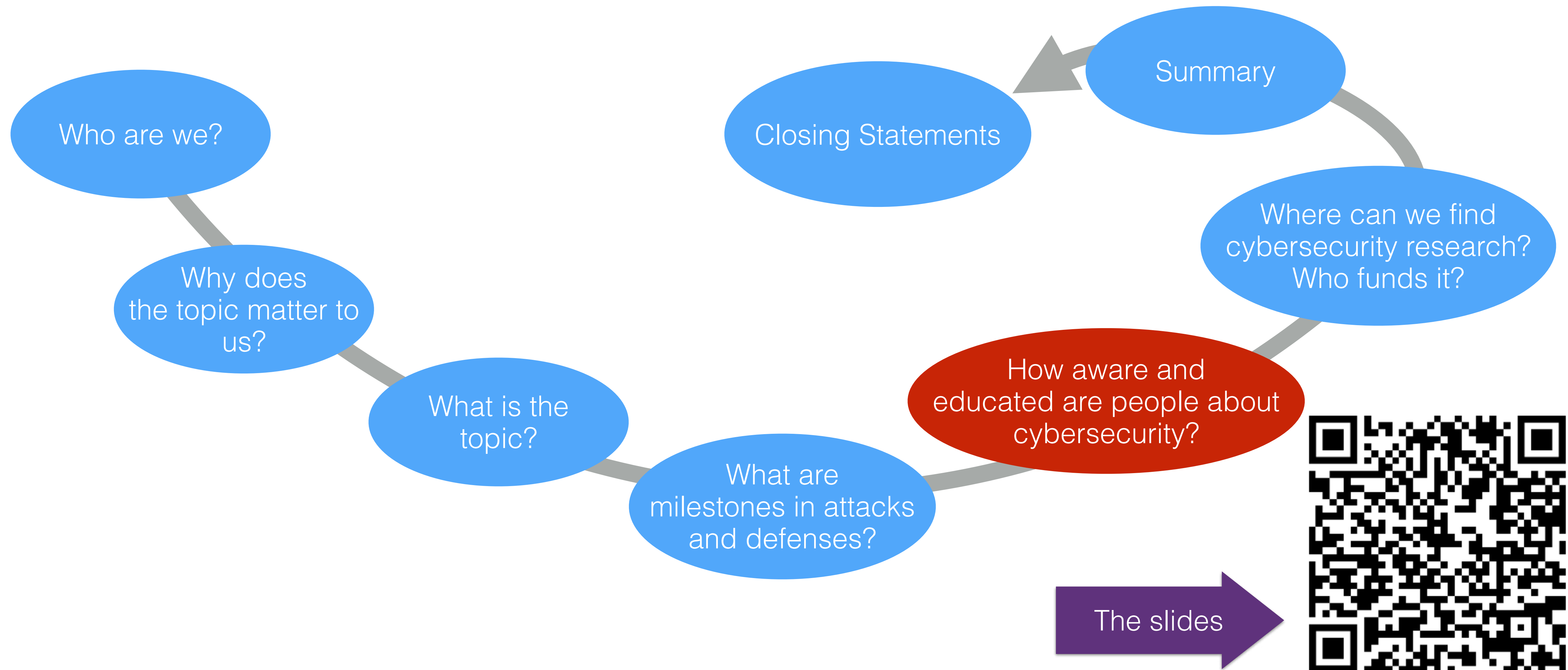


Attack & Defense (~14h00-14h15)

- Attack
 - What are seminal attacks for you?
 - Who are the attackers today?
 - How did the attack surface change over the past decade?
- Defense
 - What are major changes in the cybersecurity defense (over the past decade or longer)?
 - **What are the big challenges in cybersecurity research at the moment?**



Our planned journey (that you can deviate at any time)

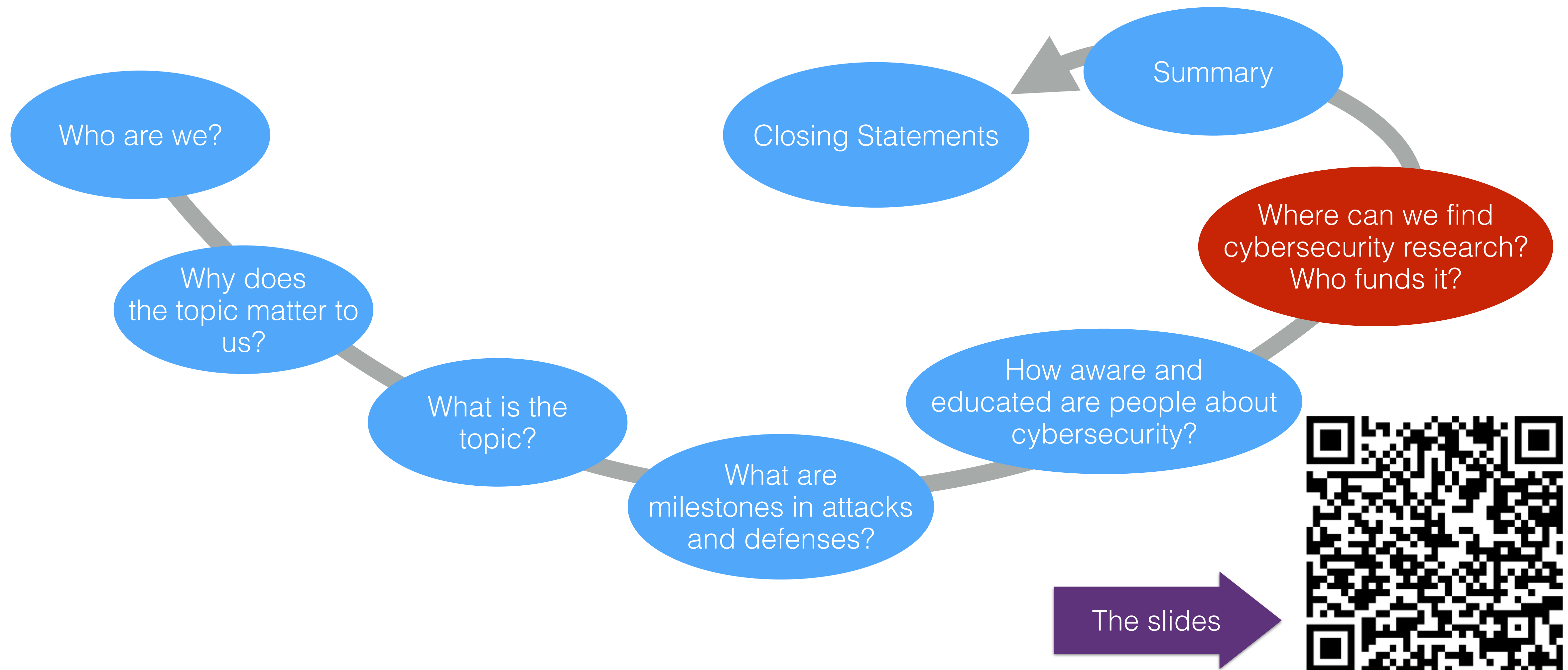


Awareness & Education (~14h15-14h30)

- Are people aware enough of cybersecurity threats?
- Are they aware enough of defense techniques?
- What should they be aware of and are possibly not?
- How is the cybersecurity education situation in your country? (E.g. lighthouse projects)
 - When does the cybersecurity education start? How?
 - Who is targeted?
- Role of prizes and challenges (e.g. Hackathons)
- What new formats would you wish to see more for whom?



Our planned journey (that you can deviate at any time)

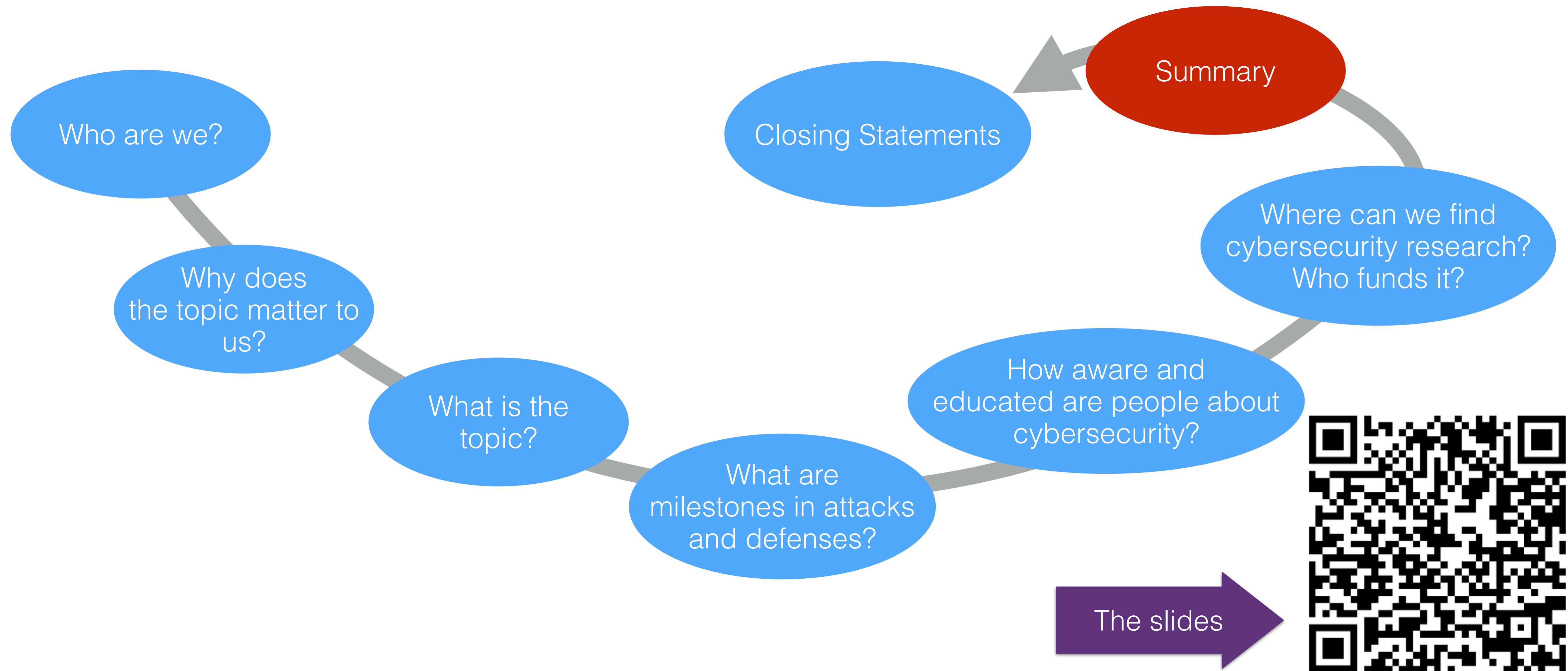


Research Venues & Funding opportunities (~14h30-14h40)

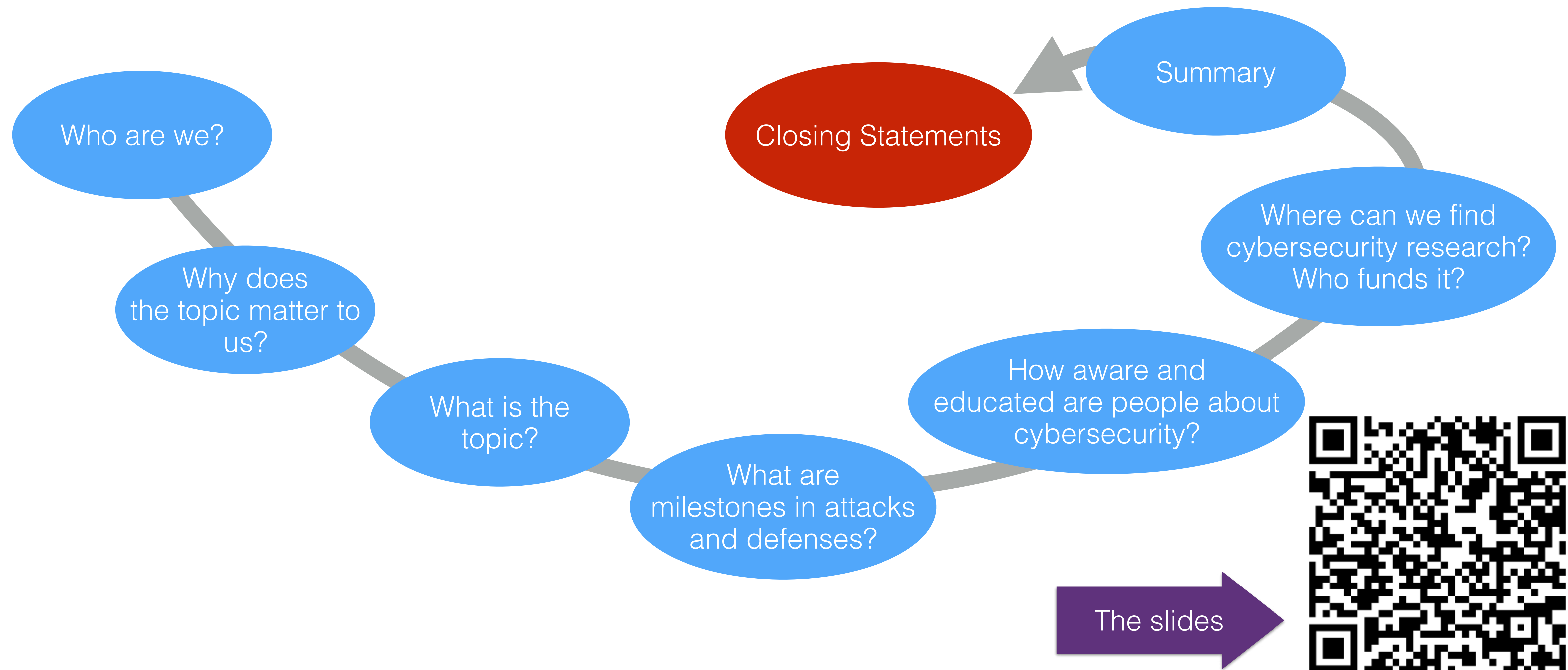
- Where is cybersecurity research presented?
- Is cybersecurity research well positioned in the research community?
- What are existing funding lines for cybersecurity research and development?
- What are good examples that you know of?
- What should change?



Our planned journey (that you can deviate at any time)



Our planned journey (that you can deviate at any time)



The slides

your monthly cybersecurity talk

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Thank you for your participation