Meeting Mariya Gabriel with ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ Robert Bosch GmbH, and ▓▓▓▓▓▓▓▓▓

Scene setter

You will meet ▓▓▓▓▓▓▓▓▓▓▓▓ Bosch, ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ has committed that all 400 Bosch facilities around the world will be carbon neutral as of 2020. ▓▓ is therefore an example that transition to carbon neutrality is possible even in difficult times.

Bosch's core operating areas are spread across four business sectors: mobility (hardware and software), consumer goods (including household appliances and power tools), industrial technology (including drive and control), energy, and building technology. Over 60% of Bosch business is in the mobility sector.

In the email requesting the meeting, Bosch indicated the following subjects for discussion:

- Horizon Europe and future European Partnerships

- The Important Project of Common European Interest instrument (IPCEI)

- Artificial Intelligence

Objective(s)

- Inform on the status of Horizon Europe Programme.
- Get feedback and suggestions from Bosch on transition to carbon neutral industry, Innovation policies, including partnerships, Important Projects of Common European Interest, and Artificial Intelligence.

Ethical issues related to connected and automated driving

- With regard to ethics, the Commission has set up earlier this year a dedicated EU group of ethical experts to address specific ethical issues and concerns related to automated mobility, which are essential for securing public acceptance and trust in these vehicles.

- This expert group will provide guidance on how ethical considerations should be taken into account, when developing and deploying connected and automated driving systems and services in Europe. The guidance report can be expected by summer next year and it will address recommendations in the following areas:

  o safety, dilemma and risk assessment,

  o responsibility and liability around the design and use of automated vehicles,

  o Privacy, data collection, profiling, security, data access/sharing, ownership

Artificial Intelligence

- Artificial Intelligence is a "Key Enabling Technology" of industrial and societal relevance. In fact, AI will result in solutions to societal challenges, leading to innovations that will improve our lives, our work, our ways of communication, our education, and our health. Concrete examples are the advancement of deep learning in medical diagnosis, self-driving cars and drones, robots in deep sea and space exploration.

- The challenges in AI include foundational research improving hardware (chips for AI, but also mechatronics and advanced sensing and actuation for safer, faster, more precise, and more energy efficient robots), algorithms, achieving explainable AI (transparent decision making), adaptive learning, and improving smart, collaborative, safe and efficient robots and autonomous systems.

- Applied research is also needed to advance and demonstrate technological progress, meeting the requirements of applications and sectors' needs.

- Common AI platforms sharing tools and resources in AI, and reinforced collaboration among researchers are expected to combat fragmentation and foster progress more efficiently, thus strengthening Europe's position.

- Horizon Europe will provide R&I investments will all these areas in synergy with other programmes of the MFF (Digital Europe Programme, Connecting Europe Facility, Structural Funds, etc.).

- It is encouraging that companies like Bosch are investing in Artificial Intelligence. This will boost the competitiveness of the European Industry.

- Furthermore, the concept of human-centric approach to AI developed in the Commission Communication "Artificial Intelligence for Europe" (COM(2018) 237, 25.04.2018) will lead an to an ethics by design AI that will defend the European citizens' fundamental rights. This will be a requirement to all projects developing and/or deploying AI in Horizon Europe.

Background notes

CVs

Bosch Centre for Artificial Intelligence

The Bosch Centre for Artificial Intelligence (BCAI) was established on January 1, 2017.

Bosch ███████████████████████████████████████
████████████████████████████████████

<u>Use cases</u>

Machine learning: The focus is on machine learning; that is, recognizing patterns and contexts and exploiting these insights. This information is derived from vast amounts of data generated by sensors. Example: parking sensors.

Applications sectors include Mobility (automated driving), connected industry (predictive maintenance), and robotics.

<u>Partnerships in the area of artificial intelligence</u>

Cyber Valley

Partners from industry, academia, and government are collaborating closely in the field of artificial intelligence. The aim is to fast-track efforts to translate basic research findings into real-world applications. Bosch plans to invest 7 million euros in Cyber Valley.

Delta Lab

A research alliance with the University of Amsterdam. This partnership aims to facilitate the exchange and transfer of expert knowledge in the field of deep learning.

Carnegie Mellon University

A research alliance with the Carnegie Mellon University (USA) that aims to facilitate the exchange in the field of robust deep learning.

Contact(s): ███████████████████ **(DG RTD), tel.:** ████████