Artificial Intelligence (AI) for Road Safety Initiative

Concept Note

1. Introduction

The "AI for Road Safety" Initiative (the Initiative) was launched on 6 October 2021, as a collaboration between the International Telecommunication Union (ITU), the UN Secretary-General's Special Envoy for Road Safety and the UN Envoy on Technology.

The established new initiative on "AI for Road Safety" is promoted within AI for Good. The Initiative is in line with the UN General Assembly Resolution (UN A/RES/74/299) on Improving global Road Safety, which highlights the role of innovative automotive and digital technology, in line with the Terms of Reference of the UN Secretary-General's Special Envoy for Road Safety, as well as in line with the UN Secretary General's roadmap on digital cooperation.

The focus of this new initiative harnesses the value of AI in supporting the safe system approach, which aligns with the vision set forth by the Global Plan for the Second Decade of Action for Road Safety. The Initiative promotes the development and application of AI for road safety, in particular, in low- and middle- income countries, where most of the road fatalities and injuries occur.

The Initiative recognizes the value of UN system organizations, civil society as well as public and private sector in their key roles for the development and application of AI for road safety.

AI for Road Safety promotes innovations in the field of information and communication technology (ICT), having in mind the safe systems approach and advocates for advancements of innovative technologies powered by Artificial Intelligence (AI) to enhance worldwide safety on the road.

2. The Collaboration and Activities

ITU, the Special Envoy on Road Safety, and the Envoy on Technology are collaborating on a global initiative on "AI for Road Safety", which aims to advocate for the potentials of innovative technologies powered by Artificial Intelligence (AI) to enhance worldwide safety on the road. This new initiative focuses on technologies applicable to low- and middle- income countries where most of the road fatalities and injuries occur. It engages stakeholders willing to contribute to achieving the UN SDG target 3.6 to halve by 2030 the number of global deaths and injuries from road traffic accidents, and the SDG Goal 11.2 to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030.

The initiative envisions activities to promote the role of AI in the following areas:

- road safety data
- safer vehicles
- safer road infrastructure
- enhanced post-crash response

The following are an initial set of activities envisioned by the new initiative, with an emphasis on low- and middle- income countries to address the digital divide:

a) **AI as enabler of better road safety data:** Working with existing systems of data collection and reporting, such as through Regional Road Safety Observatories, WHO, national agencies, to improve and expand scope of existing road safety data, through AI technology. The activities aim to foster the use of AI systems and applications that enhance road safety data

collection and enable their efficient sorting and classification. The sets of data collected, sorted and classified with AI could also serve to train AI-models serving the purpose of Road Safety.

b) **Webinars and trainings:** Under the umbrella of AI for Good, the Initiative organized a first webinar on 6 October 2021 that took stock of various pre-existing activities relating to AI for Road Safety. Subsequent webinars would involve relevant stakeholders that already produce impact on road safety through AI.

c) **Challenges on AI for Road Safety:** ITU, under the AI for Good activities, organizes annual competitions called "Challenges", in which teams composed of students, academics and professionals compete to solve realistic problem statements. A prominent example is the ITU AI/ML in 5G Challenge.

The Initiative will organize challenges on AI for Road Safety in this context, with defined problem statements, on which academics and other stakeholders will be requested to submit proposals to solve it.

A possible topic may be the use of mobile phones as sensors to detect accidents, when those happened to users of the mobile phones (pedestrian, cyclists, passengers on vehicles, etc.). Stakeholders and academics would be invited to propose innovative applications that may use the accelerometers or other sensors in the mobile phones to detect accidents. This problem statement may help identifying technologies that would penetrate rapidly worldwide, as well as developing applications that, through mobile phones, could help collecting real-time data on accidents as well as enhancing the security and safety of citizens. For example, automatic emergency calls could be triggered by the applications themselves (similarly to the e-call service provides within the vehicles). Other problem statements will be discussed and identified to support AI for Road Safety.

d) **AI for Road Safety readiness landscape:** One of the activities could be dedicated to discussing AI for Road Safety readiness landscape with the objective to explore capacity building activities of relevance for low- and middle- income countries in order to address the digital divide; and promoting key objectives of relevance for low- and middle- income countries and assess their possible standardization to support AI for Road Safety and in relation to cities.

e) **AI for Road Safety and the telecom industry**: Liaise with telecommunication providers and hardware/software companies to promote possible extension of their technologies (e.g. e-call for all, bike fall detection, limiting the use of mobile phone in driving and walking etc.). Involve stakeholders, including young developers, and academics to develop innovative applications (proof of concept) that may use the accelerometers or other sensors in the mobile devices to detect accidents involving vulnerable road users (e.g., pedestrians or cyclists).

Note: Partnership with public and private sectors will be sought to support the activities proposed above.

Annexes:

- ANNEX 1 – ORGANIZERS AND PARTNERSHIPS

  ANNEX 2 – PARTNERS

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Leadership

The UN Secretary-General Special Envoy on Road Safety, the Envoy on Technology and Secretary-General of ITU will provide for the leadership support of the Initiative, by increasing visibility of the Initiative and engaging other high-level stakeholders.

Organizers

The organizing of the activities of the Initiative will rely on the Office of UN Secretary-General Special Envoy on Road Safety, Office of Envoy on Technology and the ITU. The Organizers will be responsible for the overall coordination and management of the "AI for Road Safety" initiative, including convening activities as described in "collaboration and activities" above, as well as communications and advocacy activities.

Web pages

A dedicated website is maintained by the ITU under the AI for Good platform. All other web pages by organizers and partners will be coordinated with the organizers and developed to provide high level information on the objectives of the Initiative, contact points and activities planned as well as achievements.

Dedicated website: https://aiforgood.itu.int/about/ai-ml-pre-standardization/ai4roadsafety/.

Partners

Partnership with UN system organizations, private sector, public sector and other stakeholders will be welcomed as an added value to AI for Road Safety.

The Initiative will identify all partners in the "AI for Road Safety" webpages with their logo.

The partners will be requested to:

- Appoint a focal point who would be available to promote various activities among relevant stakeholders;
- Participate in activities of the Initiative based on their availability and field of expertise; and
- Propose activities to continue expanding the impact and nexus of road safety respective to their agenda.

Contacts

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ANNEX 2 – PARTNERS (TO BE FINALIZED)

1) Background on organization/agency (100 words)
2) Current roles and activities related to AI for Road Safety (100 words)
3) Proposed activities to lead under “AI for Road Safety”

Expected Onboarding of UN Partners:

First Phase

UNECE

World Bank

WHO

UNICEF

UN HABITAT

UNEP

UN Road Safety Fund

UNESCO

Second Phase

UNECA

ECLAC

ESCAP

ESCWA

Others…