Opening Speech for the official launch of the

**TUM Institute for Ethics in Artificial Intelligence**

Professor Dr. Thomas F. Hofmann
Präsident der Technischen Universität München

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Dear guests and colleagues,
another wonderful day for TUM!

As new president of TUM, it is my privilege and pleasure to welcome all of you to celebrate the official launch of the TUM Institute for Ethics in Artificial Intelligence. And it makes me proud that so many of you followed our invitation on this topic which touches all of our lives.

My special welcome and thanks go to
- Dorothee Bär - Minister of State for Digitilization in the Federal Chancellery
- Prof. Lucianio Floridi – Director of the Digital Ethics Lab at the Oxford Internet Institute
- Prof. Sabine Maasen – Director of the Munich Center for Technology in Society
- Prof. Christoph Lütge – Director of the TUM Institute for Ethics in AI

We are living in a world of rapid change: Disruptive scientific advances, structural economic changes, rapidly changing labor markets and societal paradigm shifts present new historical challenges to innovation processes, products and services across the various technology sectors: energy – mobility – communication – health – infrastructure & built enviroment etc.

This offers insurmountable challenges to those who are laying back, but enormous opportunities to those you are capable to act & adapt to those challenges.

The Technical University of Munich (TUM) proactively started an initiative build on three pillars:
1. Recruit and support pioneering talents and build coherency in competence
2. Accelerate technology diffusion/adoption in economy
3. Ensure the cultural and societal anchoring of advancing developments

Artificial intelligence is one of the most transformative technologies, with the potential to influence all spheres of our lives. Research in AI goes back a long way at TUM: #6 in world-wide ranking.

Together with Robotics, it AI is the defining element of machine intelligence and is considered an enabler for the future of our society. For sure, machines will not
replace us. But with advances in "machine intelligence", they will play an ever-increasing role in our lives.

To make us fit for the future and to create connectivity across departments, we bundeled intellectual and financial resources (40 professors) under one roof and founded the Munich School of Robotics and Machine Intelligence (MSRM) in 2017. And we appointed Prof. Sami Haddadin as a systems architect and founding director: a top researcher in the field of robotics, awarded the Leibniz Price as well as the German Federal President's Award for Innovation in Science & Technology.

With this setup, we have been embarking on new paths to make machine-based assistance systems “smarter” and more responsive, in three focus dimensions:
1) "Future of health", with a focus on support for older people through robotics and artificial intelligence (geriatronics)
2) "Future of work", with priority on robot learning and safe robot assistants;
3) "Future of mobility", and especially autonomous transport systems.

Aiming at becoming the leading European center for robotics and machine intelligence, we built strong alliances with top-level research centers globally, like in Stanford, and leading enterprises like BMW, Continental, IBM, Infineon, SAP, and Siemens.

Through such trustful partnerships with industrial partners as well as by promoting the launch of start-ups with support of UnternehmerTUM, we bring turn fundamental research breakthroughs into real-life applications.

And we are going to initiate another focal point of excellence to advance TUM’s capabilities in multidisciplinary data-driven research through cross-disciplinary collaboration. The Munich Data Science Institute will bring Data Science, Machine Learning, and AI into other fields: Computer Vision, Data Engineering, Digital Medicine, Energy Materials and Chemical Catalysis, Quantum Engineering, and Dynamic Social, Political and Economics Systems.

However, if we want to shape tomorrows society, we also have to integrate ethical, political and legal aspects into our innovation processes – otherways we are going to
Therefore, TUM’s Future Mission will be: Responsible Research & Innovation!
We align our research and innovation to the values, needs and expectations of society! We have launched an extensive expansion program in humanities and social sciences:

We founded the Munich Center for Technology in Society (MCTS) as part of Germany’s Excellence Initiative 2012, with Prof. Sabine Maasen appointed as the director. Sociologists, ethics experts philosophers and historians, economists and media scholars collaborate with engineers and natural scientists on joint projects. Together, they study the human factor in technology and science, explore how research impacts society and vice-versa, and which ethical factors should be taken into consideration when new technology development, and how science and the general public can communicate with each other.

And we opened the TUM’s horizont by political science - with the association of the Bavarian School of Public Policy to TUM and the new TUM School of Governance. This gives us the opportunity to analyze the interactions between politics, society, the economy and technology. Increasingly important in times, in which digital media has created fundamentally new ways to engage with political processes and in the acceptance of new technologies.

TUM is committed to forge these new strengths with those in natural and medical science, engineering and AI research into a powerful legion aiming at developing human-centered, secure and trustworthy innovations! This human-centered engineering approach will be guiding principle of TUM’s future action and, therefore, we are going to scale up and diversify the integration of sociology, philosophy, ethics, and political science.

To strengthen our focus on ethical implications of Artificial Intelligence, we founded the TUM Institute of Ethics in Artificial Intelligence under the direction of Prof. Lütge, holder of the Peter Lösch Endowed Chair of Business Ethics at TUM, under the roof of the MCTS. And Facebook supported our efforts with 6.5 million euros. Many thanks for your grateful donation which is going to contribute to accelerating the implementation of our strategy.
We want to supply guidelines for ethical implications of Artificial Intelligence for society, industry and legislators. Through our research we want to ensure the responsible and thoughtful use of AI! We want to ensure this technology to “play fair” and preserve human rights.

To achieve this at scale, we are going to expand our faculty: Prof. Dirk Heckmann has just been appointed as Full Professor for Law and Security of Digitalization. He will add significant expertise. Any a series of new professorships will come soon, such as the Tenure Track professorship on Ethics in Systems Design and Machine Learning. And we want to bridge the TUM Institute for Ethics in AI with other leading institutes worldwide (e.g. Oxford) in order to accelerate impact in the growing field of ethical research on the use of new technology.

Supported by our Scientific Advisory Board, we today launch the first six interdisciplinary tandem projects with a funding volume of 2.3 Mio Euro. They cover a wide range of AI-related ethics topics such as in social media, autonomous driving and clinical medicine. I wish all the scientists a lot of success with their research projects helping to make the TUM Institute for Ethics in AI becoming truly influential.

Bavaria is the place where tradition has a future! We are known in the world for our “Bavarian Gemütlichkeit” and the Octoberfest, which just ended yesterday. But also Future has tradition here in Bavaria: Through close collaboration with business, industry and society, TUM provided important contributions to Bavaria’s development from an agricultural land to a center of high-level and precision technology. Today, this symposium will set the ground on which we can build the future on the responsible and thoughtful use of AI!
I want to thank the speakers to give this conference a vital impetus, and wish all of you lots of inspiration and time to meet and exchange thoughts on future projects. TUM will fully support the engagement and ambition of our scientists to grow the new institute to deliver impact world-wide.