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ITER Director-General Pietro Barabaschi
IAEA General Conference, Plenary Session
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Statement of the ITER Organization

Good afternoon, Director-General Rafael Grossi, your excellencies, distinguished members of the delegations. Thank you for the opportunity to address this 69th General Conference of the International Atomic Energy Agency.

The world of nuclear fusion is evolving rapidly. In particular, the emergence of private sector fusion research and development, supported by private sector investment, is an increasingly visible development which we at ITER welcome and actively support. While some of these emerging concepts are less tested and appear optimistic in their projections, we hope that as many as possible will succeed. With the support of the ITER Council, we have pledged to support these private sector initiatives, by sharing the technical knowledge and experience that ITER and its partner organizations have accumulated over decades.

I am pleased to provide you with an overview of ITER Project progress. Following a period of reorganization, re-baselining and recovery, ITER is moving forward with agility in tokamak assembly phase. Required repairs to major components are largely complete. The relationship with ASNR, the French nuclear safety regulator, has been restored. The ITER Council has signaled its overall approval of the baseline schedule we presented in 2024, as well as approval of the project cost profile – subject to approval from capitals – through the initial phase through the end of 2028.

Earlier this year, we completed the fabrication of all required major magnets. The first vacuum vessel sector module was installed in mid-April, and the second in mid-June, about six weeks ahead of schedule. The cryogenics plant has achieved helium liquefaction, and construction of a test facility is underway that will use the cryogenics



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system for additional pre-installation testing of some magnets. Gyrotron installation has begun for the electron cyclotron heating system. Divertor manufacturing is underway.

A new baseline was defined 2 years ago and since then, the project has maintained a schedule performance index of 1.0 with a cost performance index of 1.1, meaning that 100% of what is planned is being achieved, remaining well within the budget. In 2024 the project has implemented 30% more work than in any previous year and 2025 is progressing with the same execution rate. This translates to the strongest performance ever at ITER and indicates that we have built a solid, achievable baseline for the project, grounded in realistic assumptions and reliable technical data and incorporating lessons learned. This serves our Members well, as well as the global fusion community.

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ITER is also delivering on its promise to engage with private sector fusion initiatives, across multiple channels. The first of two volumes of the ITER Design Handbook will be published in a few months. ITER's accumulated knowledge is being shared through technical visits, conversations with technical experts, and access to ITER documentation. The first private sector fusion company has been admitted to the committees of the International Tokamak Physics Activity (ITPA). Approvals are largely complete for open sourcing ITER's core software. Progress is being made on the compilation of a global fusion supply chain catalog.

Yet despite this satisfying momentum, we remain keenly aware of the substantial challenges that remain if nuclear fusion is to become a practical source of energy. We require more advanced structural materials, capable of withstanding the intense bombardment of fusion's high-energy neutrons. We must find solutions to demonstrate tritium breeding and recycling at commercial scale. We have not yet developed an engineering solution for managing the intense heat fluxes which affect the components facing the plasma. We need advanced robotics and remote handling capability to enable efficient plant maintenance. Some of these challenges will be addressed by ITER's operation, but for others we need to remind policy makers that we still do not have clear solutions.



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Only by acknowledging these challenges, attuning our expectations, and advancing a robust framework for collaboration can we accelerate the required solutions.

ITER was founded under the auspices of the IAEA as a project of peaceful cooperation: seven members, more than 30 nations, uniting to achieve one of the most complex ambitions of humankind. It is our great honour to lead this collaboration, and we look forward to achieving success together.

Thank you.

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