ITER – A GLOBAL COLLABORATION

ITER’s establishment and organisation, comparison to JET, schedule, budget

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1958: Atoms for Peace – worldwide agreement on the peaceful use of atomic energy.
ITER – FUSION FOR MANKIND

The idea of the ITER project was outlined in 1985:
»An international experiment should be built investigating fusion energy ‘for the benefit of all mankind’«
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ITER SITE

• 180 hectares of land in St-Paul-lez-Durance, in southern France
• Scientific buildings and facilities are constructed on the approximate size of 60 soccer fields
ITER – SCIENTIFIC GOALS

• to demonstrate the feasibility of fusion as an energy source
• to prove integrated operation of technologies for a fusion power plant
• to test concepts for a tritium breeding module
• to produce 500MW of fusion power, 10 times the input power
BENEFITS OF ITER

• ITER paves the way to a CO$_2$-free, sustainable energy source
• ITER benefits from the cultural and disciplinary diversity of its staff
• ITER helps to establish international collaboration
CHALLENGES FOR ITER

• ITER is tackling different safety & industrial standards, employment schemes, measure standards ...

• ITER is challenged by differences in culture and mentality of its staff

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ITER parties provide 90% of components.

Relative contribution to the estimated $20-Billion construction costs.
## ITER, THE NEW GENERATION

<table>
<thead>
<tr>
<th></th>
<th>JET</th>
<th>ITER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radius</td>
<td>3 m</td>
<td>6.2 m</td>
</tr>
<tr>
<td>Volume</td>
<td>90 m³</td>
<td>840 m³</td>
</tr>
<tr>
<td>Power factor Q</td>
<td>0.65</td>
<td>10</td>
</tr>
<tr>
<td>Fusion Power</td>
<td>16 MW</td>
<td>500 MW</td>
</tr>
</tbody>
</table>

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ITER First Plasma will be in December 2025.
ITER will run experiments with real fusion fuel in the 2030’s.
ITER BUDGET

• As the host party, the EU covers about 45% of ITER's costs.

Graphic: Pie chart, EUROfusion, Reinald Fenke, data: https://tinyurl.com/lanjobg