Press release

Marseille, 4th July 2016

**Nuclear dismantling: Onet Technologies and CEA acclaimed by SFEN and WNE for remotely operated laser-cutting technology**

**On 23 June, the French nuclear energy society (SFEN) presented its award for technological innovation to Onet Technologies and the French alternative energies and atomic energies commission (CEA). The distinction was given in recognition of the remotely operated laser-cutting technology developed at the CEA Saclay and Marcoule facilities and implemented by Onet Technologies in clean-up operations at CEA Marcoule. The innovation was also praised by the World Nuclear Exhibition (WNE) and could be used for the removal of melted fuel debris from the damaged reactors at the Fukushima Daiichi nuclear power plant.**

The remotely operated laser-cutting technology developed by CEA and implemented by Onet Technologies is especially suited to cutting very thick materials in a hazardous environment. It allows for easy remote operation while offering impressive position tolerance for cutting heterogeneous layers of materials; moreover, it generates fewer aerosols than most other available techniques.

Introduced by Onet Technologies as a world first in December 2015, the technology has demonstrated its full potential in the ongoing project to dismantle MAR200 dissolvers in the spent-fuel reprocessing facility at the CEA Marcoule site in France. The dismantling process was also nominated in the WNE Awards and received the SFEN award for technological innovation on 23 June this year.

**A key challenge: adapting current technology to Fukushima Daiichi requirements**

The award showcases promising technology that could be chosen as a solution to remove melted fuel debris from the damaged reactors at the Fukushima Daiichi plant—a project in which Onet Technologies and the CEA have been actively involved since 2014.

The ongoing initiative involves adapting the existing, reliable technology to the highly specific requirements of the damaged reactors. Removing fuel debris from the reactor cores will be a vital step in the decommissioning programme.

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**Combining first-class expertise with hands-on industrial experience**

The use of remotely operated laser-cutting technology requires in-depth knowledge spanning a number of fields—a task handled by laboratories at the CEA and the French institute for radiological protection and nuclear safety (IRSN): the CEA facility in Cadarache studies fuel debris resulting from a meltdown and manufactures non-radioactive simulants used to test cutting technology for the project; the IRSN meanwhile works on the composition of aerosols resulting from the cutting process.

Combining the hands-on industrial experience of Onet Technologies—which has demonstrated its know-how through involvement in operations to dismantle high-level waste facilities in France—with CEA expertise is vital in successfully deploying this type of complex technology in an international environment.

**Milestones in cutting UP1 dissolvers at the Marcoule facility**

- December 2015: Active laser-cutting operations begin at the UP1 plant
- Autumn 2016: Dissolver A cutting completed

**Timeline for current Fukushima project**

- August 2016: End of initial phase focusing on simulant manufacturing and cutting performance
- September 2016 to March 2017: Second project phase focusing on deep-water cutting and characterisation of resulting aerosol emissions

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**About the CEA**

The French alternative energies and atomic energy commission (CEA) is a key player in research, development and innovation, and is active in four main areas: low-carbon energy (both nuclear and renewable), technology for the IT and healthcare industries, major research infrastructure, and defence and global security. The CEA's nuclear energy division provides government and industry with the expertise and innovation for nuclear energy facilities. It has also acquired significant experience in nuclear clean-up and dismantling operations and related R&D, through a number of large-scale decommissioning projects.

**About Onet Technologies**

Onet Technologies is a leader in the French nuclear industry. The company specialises in engineering and technological maintenance solutions for nuclear reactors, with a focus on the primary circuit, along with dismantling operations and treatment of radioactive waste. With a current workforce of more than 2,700 engineers, technicians and other employees, it operates sites and maintains long-term partnerships around the globe. Onet Technologies has been actively involved in providing remote-controlled dismantling solutions for the Fukushima plant since 2013 through studies and development of innovative processes.

**About the ONET engineering and services group**

**Onet combines a range of different business lines:**
**- Cleaning & Services, Logistics and Airport Services**
(€909 million in 2015)
**- Nuclear Services and Engineering**
(€251 million in 2015)
**- Security and Reception**
(€200 million in 2015)
**- Temporary employment, recruitment and training**
(€103 million in 2015)
Total sales in 2015: €1.6 billion. 65,000 employees at 31 December 2015, with more than 470 offices in France and six countries around the world.

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