



# WEST NEWSLETTER

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WEST Team in front of Tore Supra

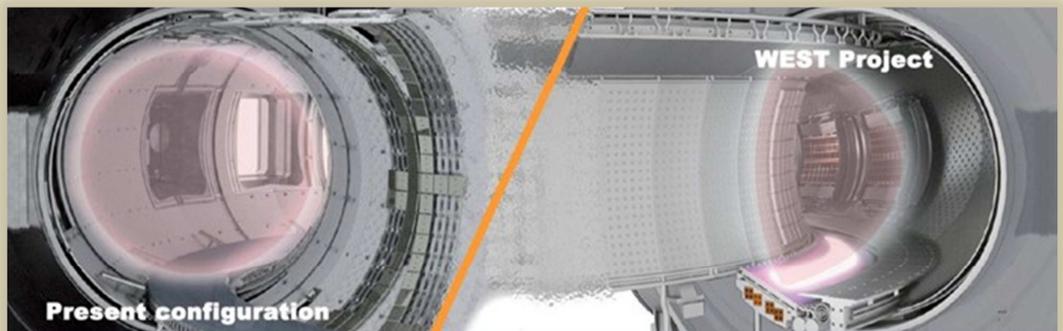
The WEST Project officially launched by the Director of the Physical Sciences Division at CEA

At the beginning of March 2013, G. Fioni, Director of the Physical Sciences Division (DSM) at CEA, has launched the WEST Project during a general meeting with all the IRFM staff. J. Bucalossi, Head of the West

Project, presented the organization, taking into account recommendations of the DSM Panel who evaluated the project in January.

The Research Institute for Magnetic Fusion (CEA/DSM/IRFM) is now embarking on the modification of Tore Supra research facility which, once transformed, will be a real test platform open to all ITER partners. The purpose is to equip the tokamak with a full tungsten divertor, benefiting from its unique long pulse capabilities, its high installed power and the long history of operation with actively cooled components. Since Tore Supra is a circular plasma device, operating with a full toroidal limiter surface, the proposed

upgrade requires that the device be equipped with some additional in-vacuum vessel magnetic coils to allow the production of divertor plasma shapes, just like those which ITER uses. The divertor is an essential component which receives the greater part of the heat fluxes and particles coming from the central plasma during experiments. The production and



operation of the ITER tungsten components emerge truly as a "first" in the world. They create new challenges that the WEST (acronym derived from W Environment in Steady-state Tokamak, where W is the chemical symbol for tungsten) Project will be able to meet.



25 09 2012

Osamu Motojima, Director General of ITER Organization is supporting the WEST Project from the outset: ***"I am thus fully convinced of the high pertinence of the WEST proposal as a key element of the R&D activities which must progress throughout the ITER partners in support of the ITER divertor procurement and implementation."***

O. Motojima, IO DG, and A. Grosman, IRFM Deputy Head, in the WEST stand at the last SOFT conference in Liège.



## The WEST Project supported by the European Union

The WEST Project is supported by the European Regional Development Fund. It was recognized as **“likely to play a significant role in the reinforcement of the scientific and technological potential territorial to the service of the growth and**

**employment”**. A first phase of the project estimated at 3.5 M€ will be financed to the tune of 1.75 M€, formalized by a convention. It will permit to realize the divertor coils and the supporting structure.



## SWIP (Southwestern Institute of Physics in Chengdu) first partner for the WEST Project

G. Fioni, Director of the Physical Sciences Division (DSM) at CEA signed with Y. Liu, Director of SWIP, a collaboration agreement for the WEST Project. By this agreement, the SWIP Institute, one of the two principal

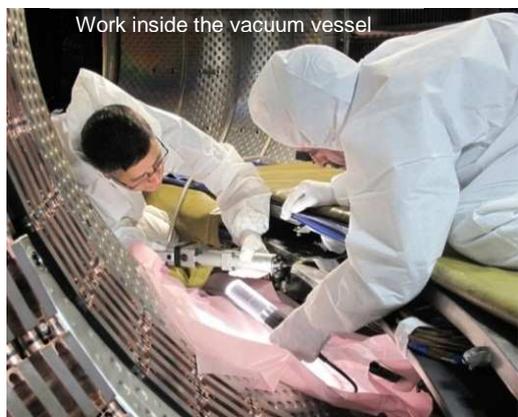
fusion research organizations in China, already partner of Iter, contributes to the power supplies for the “divertor” coils. SWIP also wishes to use, in the long term, this platform to test tungsten components.



## Work has begun with the dismantling of Tore Supra carbon components

To carry out WEST will require to modify in-depth the internal elements of the Tore Supra Tokamak. A “welcoming structure” for the divertor will be installed to replace the “Toroidal Pumped Limiter” on which the plasma relied in the vacuum vessel; the poloidal field coils will be added to obtain a magnetic configuration in X-point, identical to that of ITER.

The dismantling of Tore Supra components began in February. The aim is to realize a very precise metrology of the different port plug necessary for the WEST divertor assembly. In April a lot of



components like the Toroidal Pumped Limiter and the CFC carbon tiles of the inner bumpers were disassembled.

Left: Vacuum Vessel before dismantling. Right: Vacuum Vessel in May