



USING SCIENCE DIPLOMACY
FOR ADDRESSING GLOBAL CHALLENGES

SESAME – AN INTERNATIONAL RESEARCH INFRASTRUCTURE IN THE MIDDLE EAST

SESAME IS A SYNCHROTRON LIGHT SOURCE USER'S FACILITY IN THE MIDDLE EAST. THE INTERNATIONAL RESEARCH CENTRE WAS INITIATED WITH THE EXPLICIT INTENTION TO FOSTER SCIENTIFIC COOPERATION AMONG A NUMBER OF COUNTRIES THAT SHARE A HISTORY OF CONFLICT.

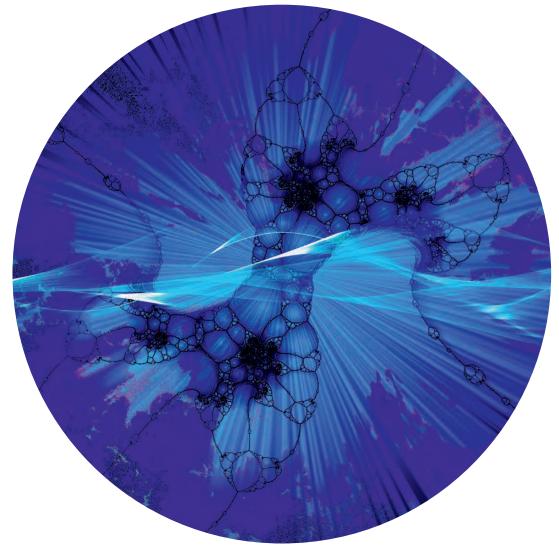
SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) is a unique science collaboration and science diplomacy effort based in the north of Amman (Jordan) following the example of CERN. A synchrotron is a particle accelerator that allows studying matter at the level of molecular structure such as proteins, crystals or viruses. Synchrotrons have come to play an important part in cutting-edge research in a variety of disciplines. SESAME is organised as an international research centre under the auspices of UNESCO and is owned by its member states.

SESAME's core ambition is to operate an international state-of-the-art synchrotron radiation users' facility that is accessible to scientists from the member countries Cyprus, Egypt, Iran, Israel, Pakistan, Palestine, Turkey and Jordan. Furthermore, it is based on the idea that science can help to overcome persistent conflicts and cultural differences on the uniting ground of science and research.

SESAME aims to advance scientific and technological development in the region and to reverse brain drain. Being the first synchrotron in the Middle East it has enormous potential to further individual disciplines and research fields as well as to strengthen the community of researchers in the region as a whole. SESAME has also been constituted with the aim of creating new links and intercultural understanding between scientists in this conflict-affected region.

In the beginning, SESAME was an initiative of a few recognized high-energy physicists. Its establishment was made possible by the continuous support of the established synchrotron facilities worldwide. The EU has subsequently stepped up financial and structural support, e.g. through OPEN-SESAME, a H2020 project tailored to the specific needs of SESAME. Traditional diplomacy efforts played a role, mainly on the institutional level, in winning support for SESAME within the member countries and to securing support and funding both on the national and international level. In that sense SESAME is not an initiative of politicians. However, its founding narrative and societal repercussions are certainly political in nature.

Even though SESAME has just recently opened its facility for researchers, its establishment process has already been a major science diplomacy effort of more than 20 years on many different levels from the procurement and shipping of synchrotron components from a number of different donor facilities, to the assembling and technical support provided by an international team of scientists on the site and the process of institutionalisation as an international member-owned research centre.



KEY HIGHLIGHTS OF THIS CASE STUDY

- » SESAME is a unique effort initiated by an international community of committed scientists.
- » The institutionalisation of SESAME and the formation of its structural support was a contingent process without a predefined plan.
- » SESAME as a science diplomacy example shows the melding of scientific ambitions and political visions.
- » Science diplomacy happened 'in the making' of SESAME, not only as a part of research cooperation at the facility.

KEY RECOMMENDATIONS

- » Create public awareness of and scientific interest in SESAME in the region, and form a community of researchers in the Middle East able to profit from SESAME.
- » Support the international self-governing synchrotron community and the exchange of scientists (e.g. funding, focussing on science-specific needs).
- » Promote the political aspects of SESAME's vision with care (in order not to incorporate avoidable political conflicts).
- » Find a good balance between working towards scientific excellence and training purposes.



FIGURE: Distribution of synchrotrons worldwide
(URL-Source: https://wax.science.fr/wp-content/uploads/synchrotron_worldwide.png)



PICTURE: The SESAME facility in Amman
(URL-Source: https://cds.cern.ch/record/2009159/files/_DSC1224.JPG)



Promote the political aspects of SESAME's vision with care.

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