

## HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)

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## THE INTERNATIONAL SPACE STATION AS A “TRADING POST IN OUTER SPACE”: A VIEW FROM EUROPE

**Abstract**

Upon close consideration, there are many similarities between the International Space Station (ISS) and the built-up and operations of a Dutch Trading Post (“Factory”) in 1609, initially located at Hirado on the westernmost tip of Japan, and moved in 1641 to Deshima (Nagasaki); the similarities will be highlighted to illustrate the operations of these “outposts”, together with the many challenges which had to be faced by the sponsoring parties and the “outpost” occupants.

A brief overview will be presented of the legal framework developed for Space Station cooperation, which is featured by an innovative and unique three-tier structure, together with the main reasons for this approach.

In addition to summarizing the main European contributions to the International Space Station, a comprehensive overview will be presented of the large variety of other contributions which Europe has developed for the Space Station on the basis of barter agreements with Space Station partners, primarily in the context of offsetting bilateral and multilateral obligations resulting from the Space Station cooperation. This omni-presence of European built hardware is a good illustration of ISS serving as a unique outpost for “trading space”.

The benefits which Europe and the partnership have derived from this wide-scale use of barter arrangements will be addressed, together with some critical remarks and “lessons learned” for ongoing and future large cooperative ventures in human spaceflight.

About the author: Robert P. Veldhuyzen, before retiring from ESA on September 1, 2009, was Head of Programmatic Division in the Directorate of Human Spaceflight.