

Operations and Utilisation

ACCOMMODATION & TRANSPORT

The European Transport Carrier was launched inside the European Columbus Laboratory. After launch it remained in Columbus serving as a flexible stowage facility for the ESA payload facilities Biolab, FSL, EPM and EDR.

OPERATIONAL CONCEPT

ETC was loaded on ground and installed into Columbus. Before beginning with nominal stowage activities in orbit, ETC was checked and some initial installation tasks completed.

UTILISATION SCENARIO

Once onboard the International Space Station the doors of ETC were unlocked for access to the facility. Then, the Zero-g Stowage Pockets (ZSP) in the upper and lower part of ETC, which can only be used in weightlessness, were set up. From then the stowage containers were used for various kinds of payload stowage activities.

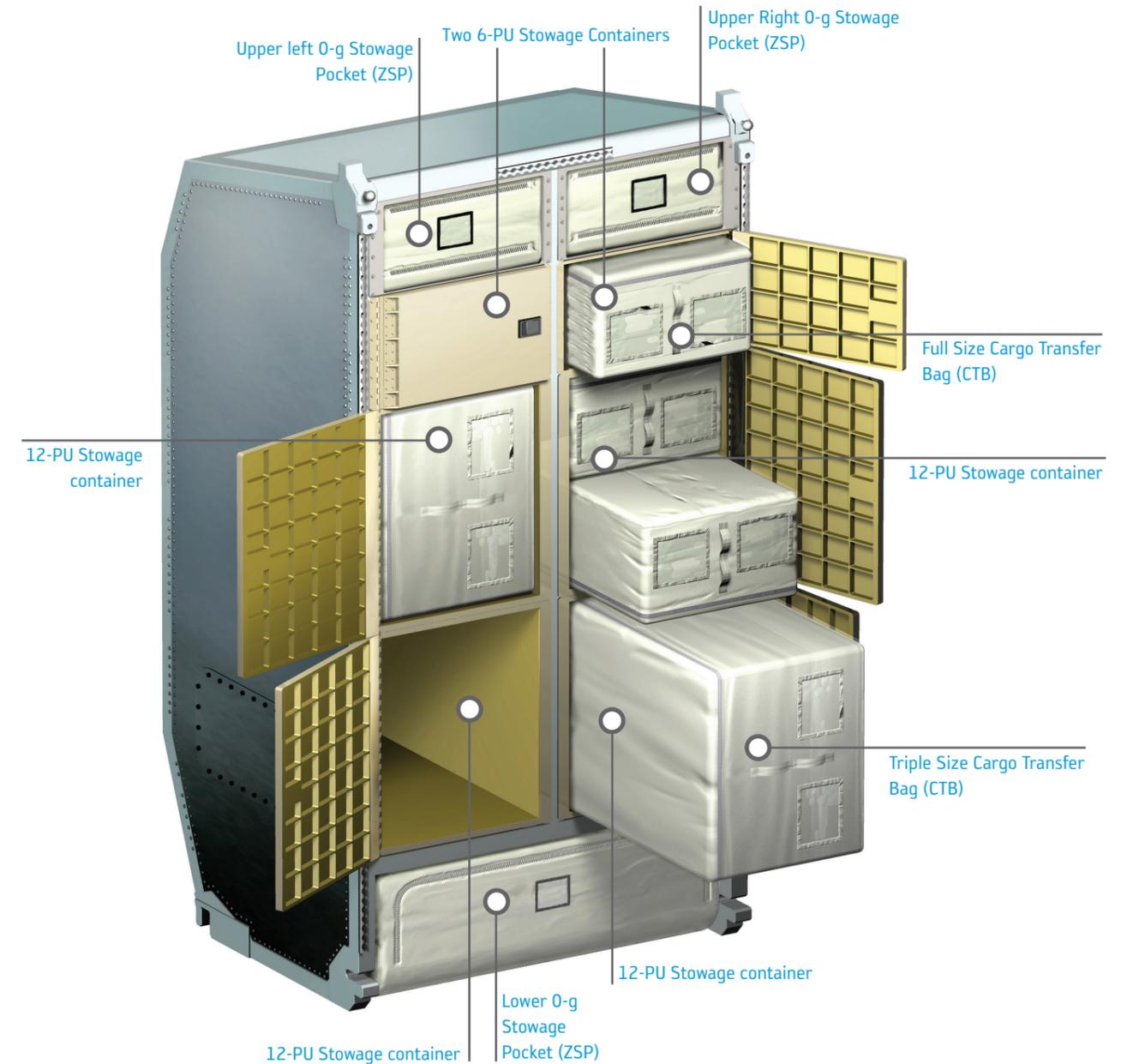
SCHEDULE

The European Transport Carrier was launched inside the Columbus Laboratory on 7 February 2008.

→ EUROPEAN TRANSPORT CARRIER (ETC)

Multi-User logistics carrier in Columbus and MPLM

The European Transport Carrier accommodated ESA payload items, which could not be launched within the active ESA facilities due to stowage or transportation limitations. In orbit, ETC serves as a workbench and stowage facility.



	PROJECT:	International Space Station	
	TITLE:	European Transport Carrier	DOCUMENT N°: ESA-HSO-COU-012
		REV.	2.0

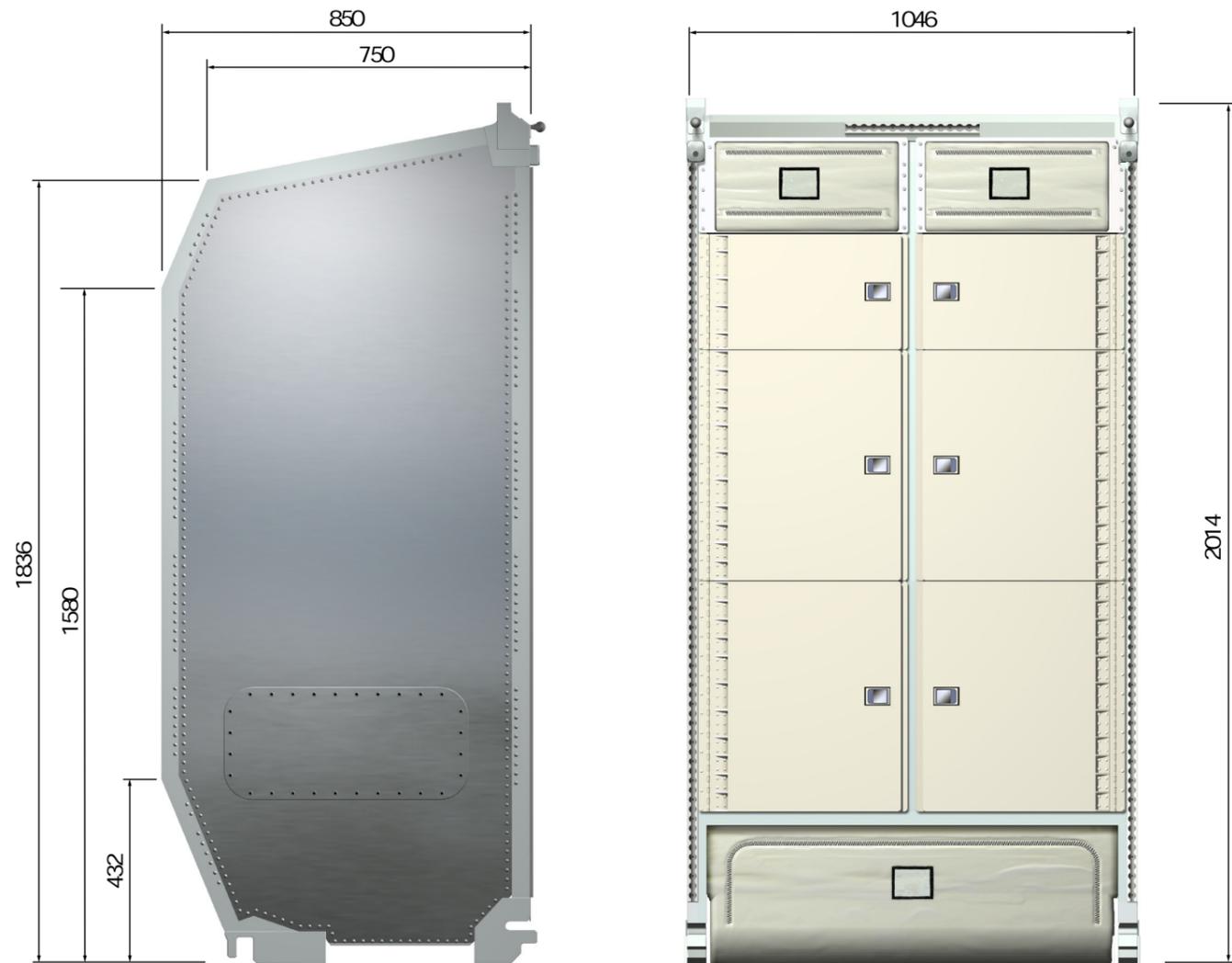
ERASMUS Centre - Directorate of Human Spaceflight and Operations

Facility Description

The European Transport Carrier can stow various kinds of payload items such as commissioning items, science instruments, consumables, orbital support equipment, orbital replaceable units, re-supply items and science items such as experiment containers. In orbit, ETC serves as a workbench and stowage facility to support experiments with Biolab, Fluid Science Laboratory (FSL), European Physiology Modules (EPM) and European Drawer Rack (EDR).

The European Transport Carrier is equipped with six rigid stowage containers in optimised sizes. There are two smaller containers of 6 PU (1PU = Panel Unit = 44,45 mm height) for full and half-size Cargo Transfer Bags, and four 12 PU containers which can be filled with any combination of Cargo Transfer Bags, up to the triple-size.

In addition the European Transport Carrier is equipped with Zero-g Stowage Pockets, one on the bottom and two on the top. These pockets extend the stowage volume capacity up to 1,000 litres instead of 800 litres in standard configuration but can be used and filled only in weightlessness.



Specifications

DIMENSIONS

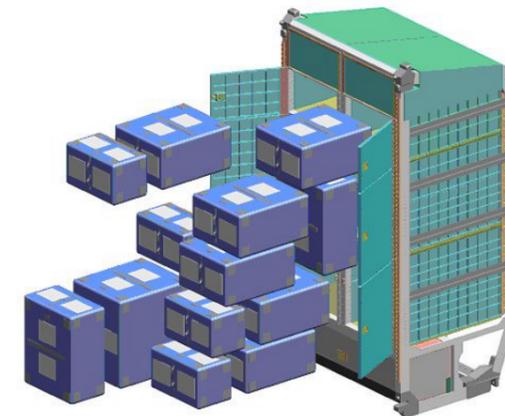
Width:	1,046 mm
Height:	2,014 mm
Depth:	850 mm

MASS BUDGET

Up/download capacity:	410 kg
Total transport/stowage volume:	797 litres
ZSP volume:	200 litres
Total usable volume on-orbit:	997 litres

CARGO TRANSFER BAGS DIMENSIONS

CTB	APPROXIMATE SIZES		MASS	
	External Dimension <i>L x W x H [mm] / [l]</i>	Internal Dimension <i>L x W x H [mm] / [l]</i>	Maximum Load <i>[kg (lbs)]</i>	Bag & PL <i>[kg]</i>
Half (1/2x)	248 x 425 x 235 / (24.8)	232 x 410 x 219 / (20.8)	13.62 (30)	1.0 + 12.6
Single (1x)	502 x 425 x 248 / (53)	486 x 410 x 232 / (46.2)	27.24 (60)	1.7 + 25.5
Double (2x)	502 x 425 x 502 / (107)	486 x 410 x 460 / (91.6)	54.48 (120)	2.0 + 52.5
Triple (3x)	749 x 425 x 502 / (159.8)	733 x 410 x 460 / (138.2)	81.72 (180)	2.7 + 79.0



Stowage Concept of Cargo Transfer Bags



Different sizes of Cargo Transfer Bags

