Glossary

Selected definitions of terms and abbreviations, as used in the text, appear below; where possible usage coincides with that found in other sources.

Actual: The physically tangible referent of an object or quality represented in a computer-generated environment (as in *actual body position*). (See also: virtual.)

Astronaut: A person who leaves Earth's orbit. (See also: EVA.)

API: *Applications Programming Interface*. A set of documented entry points to a pre-packaged software library, which taken together provide a well-defined set of related functions for use by software applications.

Complex sociotechnical system: A term coined by Jens Rasmussen to describe systems where human operators control and supervise automated technology in order to accomplish work, and where the system is of sufficient scale and complexity that control requires coordination between multiple operators.

Egocentric: Centred about or expressed relative to the observer. (See also: Exocentric, frame of reference.)

EVA: *Extra vehicular activities*. Activities conducted outside a space vehicle. Also used in adjective form to distinguish persons and objects outside the space vehicle from those within (as in *EVA astronaut*).

Exocentric: Centred about or expressed relative to an object fixed in the environment and external to the observer. (See also: Egocentric, frame of reference.)

FKT: *Forward kinematic transform*. A set of mathematical equations that allow the calculation of a robot arm's position in Cartesian coordinates given the arm's joint angles.

Frame of reference: A coordinate system whose properties are defined in terms of properties of the object to which it is attached. Typically, for a given space, many frames of reference may be arbitrarily defined.

IKT:	*Inverse kinematic transform.* A set of mathematical equations which, for a given position of a robot arm in Cartesian coordinates, may produce a set of joint angles that satisfy that position.

Longeron:	The sill of the space shuttle cargo bay, mounting point for the swing-out mechanism to which the SRMS arm is attached.

POR:	*Point of resolution.* A matrix representation of the position and orientation of a point, about which control actions upon a robot arm are expressed. For an unladen robot arm, the POR typically describes the position and orientation of the tip of the robot's arm or attached tool. When the arm is carrying a payload however, the POR generally describes a point upon the payload, usually the payload's centroid.

RMS:	*Remote manipulator system.* Generic name for a manipulator used for performing tasks at a location remote to the operator. (See also: SRMS, SSRMS.)

STS:	*Space Transportation System.* NASA's name for its space vehicle commonly known as the space shuttle and including flight hardware such as external tanks and solid rocket boosters.

SRMS:	*Space shuttle remote manipulator system.* The official name for the Canadarm robotic manipulator on the space shuttle.

SSRMS:	*Space station remote manipulator system.* The official name for the primary robotic manipulator on the International Space Station.

Teleoperation:	The performance of tasks at a remote site by an operator at a local site, where control commands and feedback travel via telecommunication links.

Telepresence:	A term coined by Howard Rheingold, referring to the phenomenal experience of being physically present at a remote location.

Telerobotic manipulation system: A system for performing manipulation tasks using a teleoperated robot. (See: Teleoperation.)

Virtual: A computer generated object or quality, which a human operator may observe and/or interact with, and which may or may not have a physically tangible correlate (as in *virtual body position*). (See also: actual.)

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