Werner Grandl, bio & publications

Werner Grandl	
	Werner Grandl (Vienna, 1957) is an Austrian architect, civil engineer and space habitat researcher. He graduated in architecture from the Technical University of Vienna in 1984 and has been a freelance architect and consulting engineer since 1994. Since 1987 he has studied space stations, space colonies and asteroid resource utilization: his designs include the Artificial Gravity Orbital Station (AGOS), a rotating successor to the ISS, modular lunar bases, the Teleoperated Rocket Crane for lunar operations, habitats inside mined-out asteroids and a space factory at the Earth-Moon L5 point. He is Director of Engineering and Applied Systems of Space Renaissance International (SRI), chair of the Space Tech & Industry Committee of the Space Renaissance Academy and a member of the SRI delegation to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), where he presented in 2025 and 2026. He co-authored the SRI position paper on the key critical factors towards 2030 and chaired the Living in Space session of the 4th Space Renaissance International World Congress (2026).

Professional history (in brief)

- 1975-1984 - Technical University Vienna, degree in architecture (1984)
- 1985 - Military service, Austrian Air Force
- 1986-1993 - Several engineering offices in Austria
- Since 1994 - Freelance architect and consulting engineer
- Since 1987 - Independent research on space stations, space colonies and asteroid resource utilization, often with Clemens Böck and Ákos Bazsó

Space Renaissance International

- Director of Engineering and Applied Systems (elected at the 4th World Congress, July 2026)
- Chair of the Space Tech & Industry Committee of the Space Renaissance Academy
- Member of the SRI delegation to UN COPUOS (since 2024)
- Chair of the session "Engineering the Foundations of Life in Free Space" (Living in Space), SRI 4th World Congress, July 2026

Papers

- Antonio Germano, Werner Grandl - "Astropolis - Space Colonization in the 21st Century", AIAA 11th SSI Princeton Conference "Space Manufacturing 9", pages 252-268, 1993
- Thomas Taylor, Anthony C. Zuppero, Antonio Germano, Werner Grandl - "Commercial Asteroid Resource Development and Utilization", IAA-95-IAA.1.3.03, Oslo, October 1995
- Werner Grandl - "Lunar Base 2015 Stage 1 - Preliminary Design Study", Acta Astronautica 60 (4-7), pages 554-560, 2007
- Thomas Taylor, Werner Grandl, Martina Pinni, Haym Benaroya - "Space Colony from a Commercial Asteroid Mining Company Town", STAIF 2008, Albuquerque, pages 934-941, 2008
- Werner Grandl - "Asteroid Impact - the Ultimate Disaster", Disaster Advances 2 (4), pages 32-35, October 2009
- Werner Grandl - "Design and Construction of a Modular Lunar Base", in "Lunar Settlements", ed. Haym Benaroya, CRC Press, pages 509-517, 2010
- Werner Grandl - "Building the First Lunar Base - Construction, Transport, Assembly", in "Moon - Prospective Energy and Material Resources", ed. Viorel Badescu, Springer, pages 633-640, 2012
- Werner Grandl, Ákos Bazsó - "Near Earth Asteroids - Prospection, Orbit Modification, Mining and Habitation", in "Asteroids - Prospective Energy and Material Resources", ed. Viorel Badescu, Springer, pages 415-438, 2013
- Werner Grandl, Clemens Böck - "The Teleoperated Rocket Crane TRC - a Versatile Spacecraft for Lunar Operations", ESA Symposium "Moon 2020-2030", ESTEC, Noordwijk, December 2015
- Werner Grandl - "Human Life in the Solar System", REACH - Reviews in Human Space Exploration 5, pages 9-21, March 2017

- Werner Grandl, Clemens Böck - "AGOS - Artificial Gravity Orbital Station, a possible successor of the ISS", ResearchGate, 2017
- Werner Grandl, Ákos Bazsó, Andreas F. Felsenstein - "Outer Solar System - Sample Return Mission by an Unmanned Interplanetary Spaceship UNIS", in "Outer Solar System", ed. Viorel Badescu, Springer, 2018
- Werner Grandl, Clemens Böck - "An Initial Lunar Camp combining rigid structures with inflatable elements", ResearchGate, 2020
- V. S. Kovalev, W. Grandl, N. S. Manukovsky, A. A. Tikhomirov, C. Böck - "Modeling a lunar base mushroom farm", Life Sciences in Space Research 33, pages 1-6, 2022
- Werner Grandl, Ákos Bazsó - chapter on habitats in mined-out near-Earth asteroids, in "Handbook of Space Resources", Springer, 2022
- Werner Grandl, Clemens Böck, Adriano V. Autino - "Artificial Gravity Orbital Station (AGOS) - the simulation of gravity in a rotating space station", paper presented at IAC 74, Baku, October 2023
- Adriano V. Autino, Alberto Cavallo, Amalie Sinclair, Bernard Foing, Dennis O'Brien, Ghanim Alotaibi, Jerry Stone, Marie-Luise Heuser, Thomas Matula, Werner Grandl - "A SRI position paper on the key critical factors towards 2030 - a necessary mid-term actualization, 2 years after the 3rd SRI World Congress", February 2024
- Adriano V. Autino, Alfred Anzaldua, Amalie Sinclair, Bernard Foing, Marie-Luise Heuser, Frank White, Werner Grandl - "Space 4 All, Space 4 Peace, a Space 18th SDG for the 2030 U.N. Agenda", paper presented at IAC 75, Milan, October 2024
- Werner Grandl, Adriano V. Autino - "Industrializing the Earth-Moon System - the role of space mining and material processing for human civilization on Earth and in space", paper presented at IAC 75, Milan, October 2024
- Werner Grandl - "Industrializing the Earth-Moon System: A Conceptual Study for a Space Factory at Lagrange Point L5", Frontiers in Space Technologies, 2025

Books

- Werner Grandl - "Utopia Solis - Leben im Sonnensystem", Weishaupt Verlag, Gnas, ISBN 978-3-7059-0385-2 (book, 2016, German language, also as e-book)

Recent presentations

- UN COPUOS 67th session, Vienna - member of the SRI delegation, June 2024
- "Building a Lagrange Space Factory in L5" - UN COPUOS Scientific and Technical Subcommittee, 62nd session, Vienna, February 2025
- "Lagrange Factory and Geo-Lunar Space Industrialization" - Space Renaissance Academy webinar SRIC4 #02, October 2025
- "Engineering gravity through centripetal force" - ACES Worldwide Living in Space Workshop, November 2025
- "Space Habitats and Vehicles Design: Humanist Requirements" - UN COPUOS Scientific and Technical Subcommittee, 63rd session, Vienna, February 2026
- "The Legacy of Gerard K. O'Neill and the Urgency to Start Experimentation on Simulated Gravity" - UN COPUOS 69th session, Vienna, June 2026
- Living in free space: scientific and engineering requirements - opening of the technology session, SRI 4th World Congress, July 2026

Werner Grandl on the Lifeboat Foundation website
SRI position paper on the key critical factors towards 2030 (February 2024, PDF)