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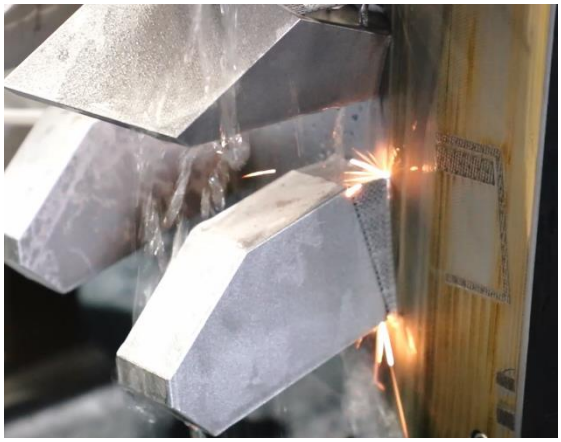
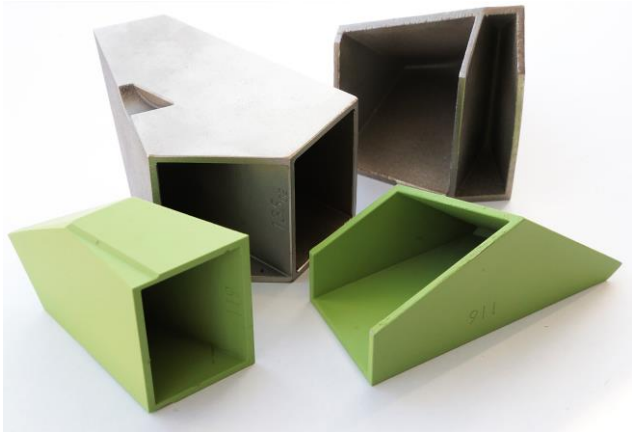
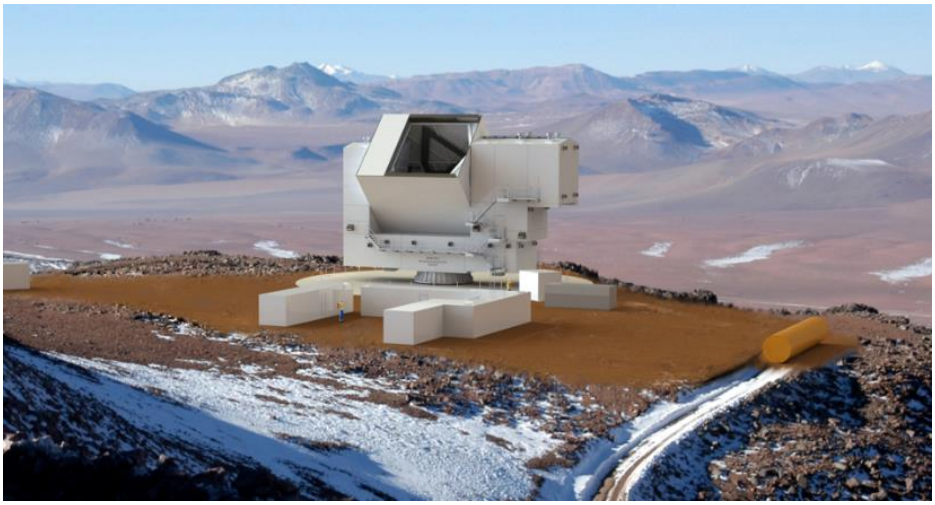
CPI Vertex Antennentechnik (VA) utilizes Selective Laser Melting (SLM) 3D Printing to manufacture complex components for large THz Radio Telescopes.





High Accuracy invar Inserts are printed using 3D printing Technology (courtesy Rosswag Engineering)

For the first time, VA takes advantage of Selective Laser Melting, a 3D printing technology, for manufacturing mechanical parts for high precision Radio Telescopes. These part are integrated into the Back Up Structure of large submillimeter Radio Telescopes such as *FYST* and *SOLAT*.



Impression of 6 Meter Terahertz Radio Telescope (under construction)

The reflective surface of Radio Telescopes is highly sensitive to deviations from the theoretical curvature caused by temperature variations. For this reason, Ni36 Invar with a very low thermal expansion coefficient is used. A large quantity of Invar inserts with individual shaping is required for each Radio Telescope. SLM technology is cost effective in comparison with conventional methods like machining. Moreover, some of the inserts shapes are too complex for conventional manufacturing technologies.