KEY HIGHLIGHTS

THE CHALLENGE

Depot 22 needed a cost-effective, high-throughput way to produce durable 17-4 PH stainless steel test components, replacing the expensive and material-intensive forging and CNC machining process.

THE SOLUTION

Manufacturing the part using sinter based additive manufacturing to provide a logistic availability of the part

THE RESULT

The printed part met visual quality expectations, demonstrating excellent surface finish, reproduction of complex geometries, and readiness for dimensional and mechanical validation.

ABOUT DEPOT 22

Depot 22 is a specialized unit within the Equipment Directorate of the Israeli Air Force. It serves as the Air Force's central mechanical maintenance unit, responsible for handling complex maintenance tasks that cannot be performed by the regular maintenance squadrons stationed at the IAF's air bases. The unit provides advanced technical expertise, in-depth repairs, and comprehensive overhaul capabilities, ensuring the operational readiness and long-term reliability of the Air Force's aircraft and related systems.

THE CHALLENGE

Depot 22 sought a cost-efficient and highly productive method for manufacturing stainless-steel components that must withstand **high** durability and strength testing before being approved for operational use.

1. The material designated for testing is **seventeen-four PH stainless steel,** which requires producing the test part with a greater wall thickness than the final intended design.
2. The current manufacturing process relies on **Forging and CNC machining,** which results in significant **machining time**, material waste and consequently increases the overall cost per part

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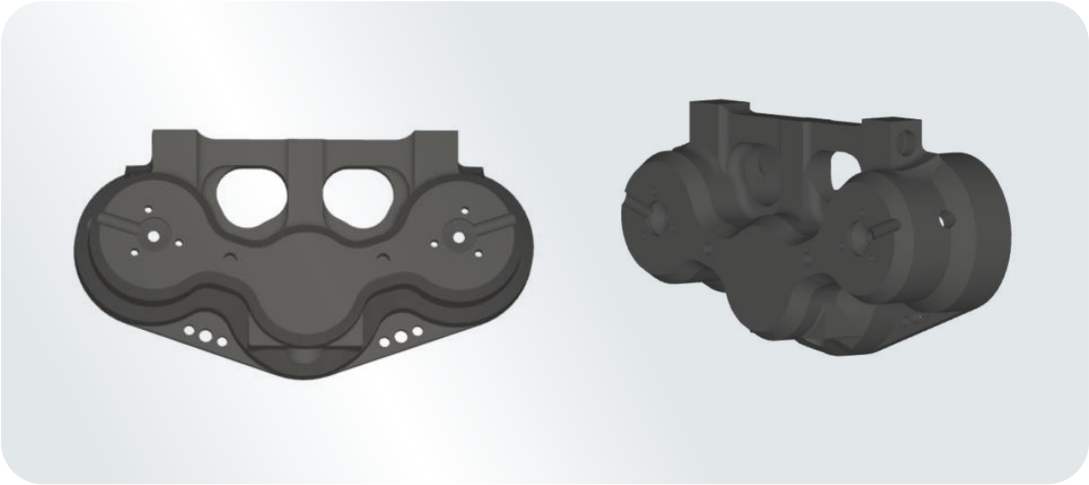
The component includes **small internal passages and varying height levels,** features that demand precise manufacturing. Since MoldJet technology builds parts **layer by layer** with high dimensional accuracy, it presents an excellent candidate for producing this geometry efficiently and with reduced time and waste.



USING MOLDJET TECHNOLOGY

Their key goals were:

1. Provide a domestic alternative manufacturing solution to a complex part.
2. Increase logistic availability of the part.
3. Demonstrate metal AM applicability for IAF's needs.

The solution – Manufacturing the part using sinter based additive manufacturing

CUSTOMER FEEDBACK

> Based on the images received, the part appears to be in excellent visual condition. The external surfaces look uniform, and the complex geometrical features and varying height levels appear to have been produced cleanly.
>
> At this stage, the manufacturing quality as seen in the photographs is promising and aligns with our expectations for sinter-based additive manufacturing of Seventeen-Four PH stainless steel.
>
> Final validation will be conducted upon receipt of the physical part, including dimensional inspection and mechanical testing as required for operational approval.

ABOUT TRITONE TECHNOLOGIES

Tritone Technologies developed MoldJet® technology and AM systems designed for scalable industrial production of high-quality metal and ceramic parts. By enabling flexibility in design and cost-efficient production at volume, Tritone empowers compaies like BAARS to innovate without compromise.