

TUNGSRAM™

Innovation is our heritage
EST. 1896

Aviation MRO Solutions



tungsr.com



Over 120-year track record with unique assets and capabilities.

Reliable operations since

1896

World-class innovation heritage



4000+

manufacturing employees in Hungary



Export to 107 countries globally

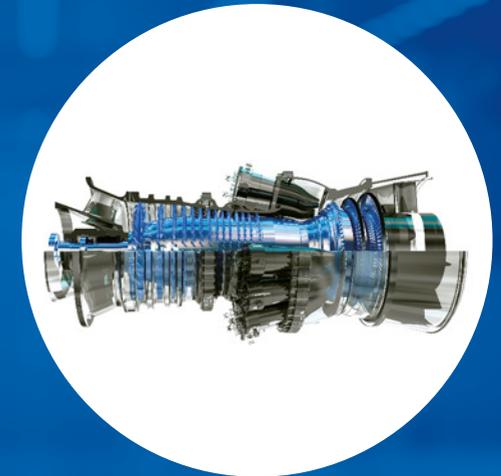
5 plants for traditional lighting technologies

20 sales offices globally

Ceramics, metal, glass and tooling facilities

Engineering talent

Aviation and Stationary Gas Turbine Parts Repair



Newly established aviation MRO facility, several year experience in power repair industry.

We have been working together for many years with GE Power and thereafter we signed a long term service agreement with GE Aviation in 2019.

What we can offer as your MRO provider:

- **Financial stability with a solid balance sheet:** Becoming a strong MRO provider requires continuous investments. Solid working capital management is a prerequisite to take on and manage large MRO-related inventory over long periods
- **Access to low cost, skilled labor:** MRO engine cost is highly dependent on the labor cost. Customers needs a partner with different labor demographics to avoid competition, while distance is limited to secure TAT
- **Understanding GE Culture:** Strong history with GE and an established, trustful and reliable relationship accelerate transfers and ease cooperation

Aviation parts and process steps

- 
Shroud and honeycomb segments (CFM 56, GE 90, CF 6)
 - Inspection
 - Chiseling
 - Grinding
 - Blasting
 - Welding
- 
Tube kits (CFM 56, GE 90, CF 6)
 - Inspection
 - Kitting
 - Repair
- 
OGV fan blade (CFM 56)
 - Inspection
 - Machining
 - Grinding

Power parts and process steps

- 
Fuel Nozzle
 - Inspection
 - NDT
 - Measurements
- 
Power Nozzle
 - Inspection
 - NDT
 - Measurements
- 
Cap
 - Inspection
 - NDT
 - Measurements
- 
Liner and Transition Piece
 - Inspection
 - Repair
 - NDT

Repair and Inspection Technologies



Chemical
Cleaning Line



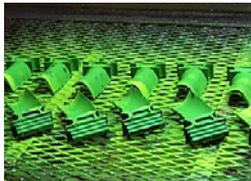
Various Type of
Grinding Machines



Red Dye
Penetrant
Inspection



AWI and Resistance
Welding



Fluorescent
Penetrant
Inspection



Blasting



3D Coordinate
Measuring



Chiseling

Continuous efforts to expand technology capabilities

We are constantly striving to work with our partners to expand our technology capabilities to meet customer needs. We are an ideal partner for GE Aviation parts MRO because Tungram have a deep understanding of GE as an ex-GE company, led by a team of ex-GE top executives.

Production Technologies



Sheet Metal
Bending



Powder
Painting Line



Sheet Metal
Forming Fiber
Laser and Punch
Press

001	211	0	0.0 %	0.0 %
002	0	0	0.0 %	0.0 %
003	3578	11	0.3 %	0.3 %
004	1830	32	1.7 %	0.9 %
005	2266	67	2.9 %	3.0 %
006	11104	79	0.7 %	0.3 %
007	2978	96	3.2 %	3.2 %
008	3664	26	0.7 %	0.7 %
009	2656	52	1.9 %	1.9 %
010	2996	13	0.4 %	0.4 %
011	2520	16	0.6 %	0.6 %
012	2530	11	0.4 %	0.4 %
013	0	0	0.0 %	0.0 %
014	0	0	0.0 %	0.0 %
015	0	0	0.0 %	0.0 %

Quality Control
and Tracking
System



CNC
Machining



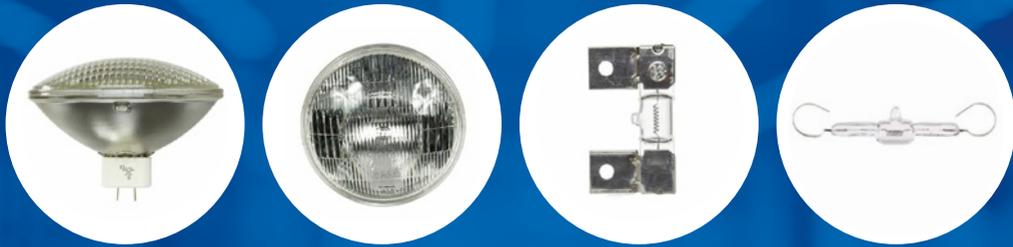
Cable Confection
and Hardness
Capabilities

Existing manufacturing capabilities, taking new directions

We have several year experience in metal components manufacturing, machining, painting and last but not at least over 120 year experience in lamps manufacturing and R&D. In addition to continuous engine maintenance and repair works, we provide professional logistic and supply chain services to our partners.

Tungram has an existing engineering talent: which means effective capability building, investment injection and transfer requires engineering talent in place.

Aircraft and Airfield lamps



Tungram has an extensive range of lamps specifically designed for use in Aircrafts. There is an extensive range of sealed beam lamps for a variety of applications.

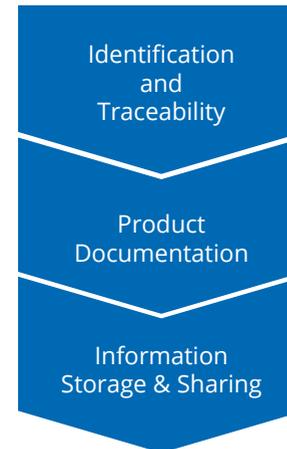
Tungram Airfield Lamp Products are a very important element of your total airfield lighting system. These high quality, high reliability lamps are designed to get the highest performance from your lighting equipment. In conjunction with FAA and ICAO approved fixtures and constant current power supply systems, Tungram Airfield lamps constitute your front line of defense against unnecessary outages and high maintenance costs.

Product details

Product code	Description	Wattage [W]	Lumen [lm]	Base
28178	5113WW 13W 1/24	13	790	G5
11478	EXL 30W 6.6AV	32	375	GZ9.5
26930	TU Q6,6A/T2 1/21CL BULK MIH	45	710	Special
88420	AF6/2 6.6A 45W	45	760	PG22-6.35
32917	TU Q65T2 1/2/1CL MIH	65	1500	G38
88417	AF6/5T 6.6A 100W	100	2100	PG22-6.35
88413	AF7/2 6.6A 200W	200	4800	PG22-6.35
23857	TU Q6,6A/T4/5CL MIH	205	5230	R7s
15482	Q20A/PAR56/C V	333	7420	G16d
88525	IM/ T7BP	1000	28000	G38
41938	1970X 1/10 MIH	100	1700	Special
38545	1978X 1/10 MIH	100	1634	Special

Certificates and Quality Control

Vision systems used at Tungram



- Register all information based on individual product & batch
- Measurement data
- Process data
- Analyzed pictures of individual products
- Generate technical documentation based on the registered information
- Process analysis and feedback for improvement
- Cloud based data storage (10+ years)
- Providing data for customers
- Historical investigations

Certificates



Federal Aviation Administration

PART 145*



ISO 14001:2004



ISO/TS 16949:2009



ISO 9001:2008

*Expected date of certification is summer 2019

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