MEDIA BACKGROUNDER

FOR IMMEDIATE RELEASE

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ASTARAS, INC. CELEBRATES GRAND OPENING OF NEW TUNGSTEN HEAVY ALLOY MANUFACTURING FACILITY IN CLEARWATER, FLORIDA

FACILITY FACT SHEET

This fact sheet provides additional context for the updated press release titled, "Astaras, Inc. Celebrates Grand Opening of New Tungsten Alloy Manufacturing Facility in Clearwater, Florida," distributed on August 5, 2025.

WORKFORCE DEVELOPMENT

At full operations, we anticipate that our workforce will account for $1,500,000 in budgeted salary/wages each year. Wages will start at approximately $45,000/year and will be commensurate with experience and skill. These full-time employees will all receive comprehensive medical, vision, and dental insurance benefits, 401k program with company match, paid holidays, and paid vacation.

The staff will include the following team members:

- Managing Director (1)
- Facilities & Safety Manager (1)
- Office Manager (1)
- Sales Specialists (2)
- Customer Service Representative (1)
- Laboratory Technician (1)
- CNC Machinist (2)
- Machine Operators and Production Associates (6)
- Quality Control and D.F.A.R.S. Compliance Manager (2)
- Shipping (1)
- Maintenance Technicians (2)

PRODUCTION MACHINES AND INTIAL CAPITAL INVESTMENT

Launching a new manufacturing facility involves a significant capital commitment across a wide range of components. At the Astaras Tungsten Heavy Alloys facility, this includes investments in advanced machinery, infrastructure upgrades, specialized equipment, precision tools, and enhancements to the property and utilities. The following list of key machines and tools represents just a portion of the approximately **$2.5 million initial-capital investment** required to bring this high-performance production site online.

VACUUM FURNACE – *SOLAR MANUFACTURING*

- **INVESTMENT OF >$1,600,000**

Used for precision sintering of tungsten heavy alloys.

- EXTREMELY HIGH-TEMPERATURE CAPABILITY
  - Specially engineered to reach the ultra-high temperatures needed to fully sinter tungsten, which has a melting point near 6188º F (3420°C).
- HIGH-VACUUM OR INERT-GAS ATMOSPHERE
  - Operating around 10-5 Torr or better, often with argon or nitrogen backfill, prevents tungsten oxidation during sintering for cleaner, high-purity results.
- BENEFITS TO OUR TUNGSTEN ALLOY MANUFACTURING
  - Uniform densification and microstructure results in high-strength, low-porosity tungsten parts.
  - Reduced risk of oxidation and contamination ensures consistent material purity.
  - Programmable cycles and quench options offer better process repeatability and control.
  - Large chamber size and heavy-duty hearths accommodate both research-scale and production-sized batches.

COLD ISOSTATIC PRESS – *QUINTUS*

- **INVESTMENT OF >$650,000**

Used to deliver consistently dense, homogeneous green compacts, forming the groundwork for high-performance tungsten heavy alloy parts.

- UNIFORM POWDER COMPACTION
  - After initial blending of tungsten and binder powders, materials are sealed in flexible molds and subjected to high isostatic pressure to form dense, uniform green parts.
  - Critical precursor to sintering or hot isostatic pressing (HIP)
- AVOIDS DENSITY GRADIENTS
  - CIP eliminates the axial-to-radial density variance common in uniaxial pressing, ensuring consistent downstream sintering and mechanical performance.
- PREP FOR FINAL SINTERING/HIP
  - The ≈95% green density from CIP creates an optimal preform.

- Subsequent sintering or HIP boosts final density to ≥99%, improving mechanical properties like strength, ductility, and toughness.

V-MIXER – *MV-100*

- **INVESTMENT OF >$30,000**

Used for precision mixing of tungsten heavy alloys.

- EFFICIENT "V-SHAPE" TUMBLING FOR HIGH UNIFORMITY
  - Ensures material separation and merging with each rotation, delivering rapid, homogenous mixing with no dead angles.
  - Ideal for powders, granules, and blended additives.
- STAINLESS-STEEL, POLISHED INTERIOR FOR QUALITY AND CLEANLINESS
  - The mixing barrel is mirror-polished inside and out with 316L/304 stainless steel, making it fully compliant with pharmaceutical, food, and GMP-grade hygiene standards.
  - Vacuum and closed-system-ready for dust and solvent control.
- BENEFITS
  - Achieves uniform mixing.
  - Promotes cleanliness and compliance, reducing cross-contamination risks.
  - Supports dust- and solvent-sensitive processes via closed/vacuum operation.
  - Prioritizes safety with interlocks and operator-friendly controls

VERTICAL CONTOUR BAND SAW

- **INVESTMENT OF $22,500**

Used to saw large tungsten alloy billets or blanks down to manageable sizes for subsequent machining, reducing handling difficulties and prep time.

- MITER CUTS FOR COMPONENT SHAPES
  - The tilting table enables precision angled cuts on tungsten parts like penetrators, counterweights, and custom geometries before final machining or assembly.
- CLEAN, STRAIGHT CUTS REDUCE REWORK
  - Precision guides and coolant systems ensure burr-free edges, reducing post-processing (e.g., grinding, deburring) on costly tungsten components.
- SUPPORTS EFFICIENT WORKFLOW IN PREP STAGE
  - With optional auto feed and blade-weld capability, the saw minimizes operator intervention and downtime, keeping production lines flowing when handling dense tungsten materials.

PNEUMATIC VIBRATION TABLE – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF $12,500**

Used for repeatable, scalable compaction processes for pre-sintering settling for dimension control.

- GREEN COMPACTION OF POWDER-FILLED MOLDS

    - Uses a fast-turning rotor with interchangeable hammers or blades to rapidly break materials into fine particles.
- ENHANCED MOLD FILLING OF COMPLEX SHAPES
    - Vibrating the mold helps tungsten powder fill intricate geometries (e.g., cooling fins, inserts) completely and evenly.
    - Minimizes defects and improves final part integrity.
- AIR BUBBLE ELIMINATION AND PACKING CONSISTENCY
    - High-frequency shaking ensures trapped air is expelled, leading to consistent and dense green bodies.
    - Crucial for achieving uniform mechanical properties after sintering and HIP.

HIGH-SPEED CRUSHER – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF $2,500**

Used for reduction of scrap and recycling of materials for certain applications.

- HIGH-SPEED ROTARY IMPACT CRUSHING
    - Uses a fast-turning rotor with interchangeable hammers or blades to rapidly break materials into fine particles.
    - Delivers consistently fine output with good control over particle size in one step.
- PRIMARY REDUCTION OF TUNGSTEN SCRAP
- PREPARATION FOR BALL MILLING OR ATTRITION MILLING
- INCREASES OVERALL PROCESS EFFICIENCY AND YIELDS
- RECYCLING OF TUNGSTEN MATERIALS
- UNIFORM MATERIAL FLOW ENSURES CONSISTENT DOWNSTREAM PERFORMANCE

JAW CRUSHER – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF $2,500**

Used for Crushing of sintered tungsten preforms, segregation, and cleaning.

- CRUSHING OF SINTERED TUNGSTEN PREFORMS OR RECYCLING RETURNS
    - During alloy manufacturing, off-spec or surplus sintered parts (e.g., tungsten alloy rods, plates, or PM billets) are often reprocessed.
    - Jaw crushers break these into manageable, granular form for re-milling or re-blending into new powder mixes.
- SEGREGATION AND CLEANING
    - Jaw crushers with adjustable discharge settings allow control of output size and avoid excess fines, which can interfere with downstream powder metallurgy processes like pressing, isostatic compaction, or slurry casting.

CNC MACHINES – *MANUFACTURES AND MODELS TBD*

- **NEAR-TERM INVESTMENT OF >$500,000**

Used for precision finishing of sintered blanks, machining complex geometries, and efficient roughing-to-finishing transitions.

- PRECISION FINISHING OF SINTERED BLANKS
    - After sintering (or HIP), dense tungsten alloy billets are hard-machined using CNC mills controlled by Oi-MF.
    - The system's surface-quality focus ensures tight tolerances and smooth finishes on critical shapes.
- MACHININGMACHINING COMPLEX GEOMETRIES
    - Multi-axis control, accurate tool compensation, and advanced motion interpolation reduce tool stress and avoid vibration issues during milling—or contouring angled and sculpted metal surfaces.
- EFFICIENT ROUGHING-TO-FINISHING TRANSITIONS
    - The combination of fast coarse movements and fine finishing cycles allows a smooth switch between aggressive material removal and high-precision aesthetics without needing multiple setups.

Targeted CNC machines will have the following features:

- MULTI-AXIS, HIGH-PRECISION CONTROL (UP TO 4 SIMULTANEOUS AXES)
    - Manage up to 4 controlled axes and 2 separate toolpaths, enabling complex 3D milling tasks like contouring and angled surfaces with exceptional accuracy.
- ADVANCED INTERPOLATION AND PATH CONTROL
    - Features like helical and polar interpolation and jerk and cutter radius compensation, facilitate smooth, intricate toolpaths.
- FINE SURFACE AND FAST CYCLE TECHNOLOGIES
    - Includes Nano-smoothing and fine-surface technology to optimize surface finish, plus fast cycle times to accelerate non-cutting moves—resulting in better quality and efficiency.
- USER-FRIENDLY, FUTURE-READY INTERFACE
    - Supports intuitive UI (iHMI or legacy), program restart, connected IoT integration (MT-LINKi), and extensive memory/storage—making it operator-friendly and Industry 4.0 ready.

LATHES – *MANUFACTURES AND MODELS TBD*

- **NEAR-TERM INVESTMENT OF >$75,000**

Used to shape some of the toughest materials in manufacturing providing precision, rigidity, and adaptability

- Machining of Sintered Billets into Final Shapes
- Finishing High-Density Cylindrical Parts
- Threading and Grooving Operations
- Prototype and Short-Run Production
- Deburring or Resizing of Sintered Parts

ROLLING MACHINE – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF >$25,000**

Enables the conversion of dense sintered billets into precision sheet, strip, or rod stock.

- Refine Grain Structure, Improve Strength, and Produce Dimensionally Accurate Parts
- Reduction of Sintered Billets
- Cold Working for Strength Enhancement
- Surface Conditioning and Finish Improvement
- Forming Near-Net Shapes for Efficiency
- Dimensional Calibration of Pressed or Forged Stock

WIRE EDM (Electrical Discharge Machining) – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF $75,000 - $125,000**

Non-contact, thermal machining process that removes material from electrically conductive workpieces using rapid, repetitive electrical discharges (sparks) between a thin wire (usually brass or copper) and the material, submerged in a dielectric fluid (typically deionized water).

- Cutting Sintered Blanks and Billets
- Machining of Intricate Features and Internal Geometries
- Achieving Tight Dimensional Tolerances
- Finishing After Conventional Roughing
- Efficient Prototyping and Low-Volume Production

QUENCHING FURNACE – *MANUFACTURE AND MODEL TBD*

- **NEAR-TERM INVESTMENT OF $20,000**

Used for post-sintering heat treatment, microstructural refinement and phase control, stress relief for large or complex components, and for reconditioning or annealing cycle endpoints.

- POST-SINTERING HEAT TREATMENT FOR PROPERTY ENHANCEMENT
    - After sintering, tungsten heavy alloys are heat-treated in a controlled environment. A quenching furnace allows for rapid cooling from solution or homogenization temperatures, adjusting hardness, strength, and grain structure.
- MICROSTRUCTURAL REFINEMENT AND PHASE CONTROL
    - Tungsten alloys often include Ni, Fe, or Cu matrices. Quenching promotes controlled phase transformation and dispersion, leading to improved toughness, ductility, and dimensional stability.
- STRESS RELIEF FOR LARGE OR COMPLEX COMPONENTS
    - Quenching helps relieve internal stresses caused by sintering or machining, especially in long rods, counterweights, or intricate parts where uniformity is key to performance.
- RECONDITIONING OR ANNEALING CYCLE ENDPOINTS
    - For parts undergoing multiple cycles (e.g., reworking, HIP, or heat treatment), the quenching furnace provides final thermal treatment to bring the part back to spec.

LABORATORY TESTING MACHINES AND INVESTMENT

XRF SCANNER – *THERMO SCIENTIFIC NITON XRF SCANNER*

- **INVESTMENT OF $35,000**

Used to evaluate distribution and composition of elements.

- Ultra-fast, non-destructive elemental analysis.
- Lab-grade results in just a few seconds—without damaging samples.
- Ideal for rapid alloy ID, PMI, soil/hazardous screening, and precious metal testing.
- Combines a powerful X-ray source and large-area Silicon Drift Detector, capable of accurately measuring light (Mg–S) to heavy elements, achieving low ppm detection limits.

METALLOGRAPHIC MICROSCOPE -*TROJAN MN 80 SERIES METALLOGRAPHIC MICROSCOPE*

- **INVESTMENT OF $37,500**

Enables detailed microstructural evaluation and quality control. Ensures advanced alloys meet stringent requirements.

- Advanced real-time image processing and analysis.
- Metallographic imaging with quantitative measurement tools.
- Microstructure evaluation of sintered parts.
- Accurately quantifies grain diameters, inclusion percentage, and phase geometry.
- Image capture with annotation and measurement metadata. Supports compliance.

UNIVERSAL TESTING SYSTEM - *INSTRON 4505*

- **INVESTMENT OF $72,500**

Obtains values for ultimate tensile strength (UTS), offset yield stress (OYS), and percentage elongation to failure.

- Versatile test capabilities across applications
    - Supports a wide range of tests—including tension, compression, bending, shear, tear, and peel.
    - It's a workhorse for materials development, quality control, and research environments.
- Advanced control and software interface
    - Materials-testing software (e.g., MTGenius/ MTESTQuattro), offering real-time data acquisition, programmable test sequences, and detailed analysis (load, position, strain).

HARDNESS TESTER – *PHASE II ROCKWELL MODEL 900-420*

- **INVESTMENT OF $8,750**

Determination of hardness conformity to industry standards, including ASTM, B777, and AMS7725.

- CONFORMS TO ASTM E-18 STANDARDS WITH TIGHT ACCURACY

- Calibrated to the latest ASTM E-18 (E18-20) guidelines.
- Offering a resolution of 0.01 HR units. »Ensures highly sensitive, repeatable testing.

- COMPREHENSIVE SCALE SUPPORT WITH AUTOMATIC CONVERSIONS
  - Seamlessly converts results to common Brinell (HB) and Vickers (HV) values—enhancing versatility across diverse testing standards.
  - Enables easy selection of scales, dwell times, test limits, and statistical tracking.

ASTARAS, INC.

Headquartered in Largo, FL, Astaras, Inc. is the foremost leading supplier of private label MIG guns and consumables, TIG torches and consumables, Gouging Torches, and Carbon Electrodes for the welding industry in North America, and it is one of the largest suppliers of Tungsten Electrodes in the U.S., including the latest innovation in tungsten electrodes, E3® tungsten electrodes (www.E3Tungsten.com). Astaras is also a leading distributor of tungsten heavy alloys products. Astaras is part of the IBG Group. Utilizing IBG Group factories, Astaras imports OEM-quality parts to their Largo, FL facility to manufacture and supply top quality TIG Torches, MIG Guns, Gouging Torches, Carbon Electrodes, and related consumables for OEMs, wholesalers, and distribution channels. Astaras designs, engineers, and assembles MIG guns and TIG and Gouging torches in Largo, FL. The copper wire, welding cable, and hoses that are used in Astaras products are purchased from choice USA suppliers. For more information, visit www.astaras.com.

The Astaras website currently displays approximately 1,700 distinct welding products offered by the company.

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