

Supply Chain Manufacturing Capability Needs | Additional Sources

Table below summarizes key manufacturing capabilities that require additional capacity, and would benefit from additional supplier partner sources :

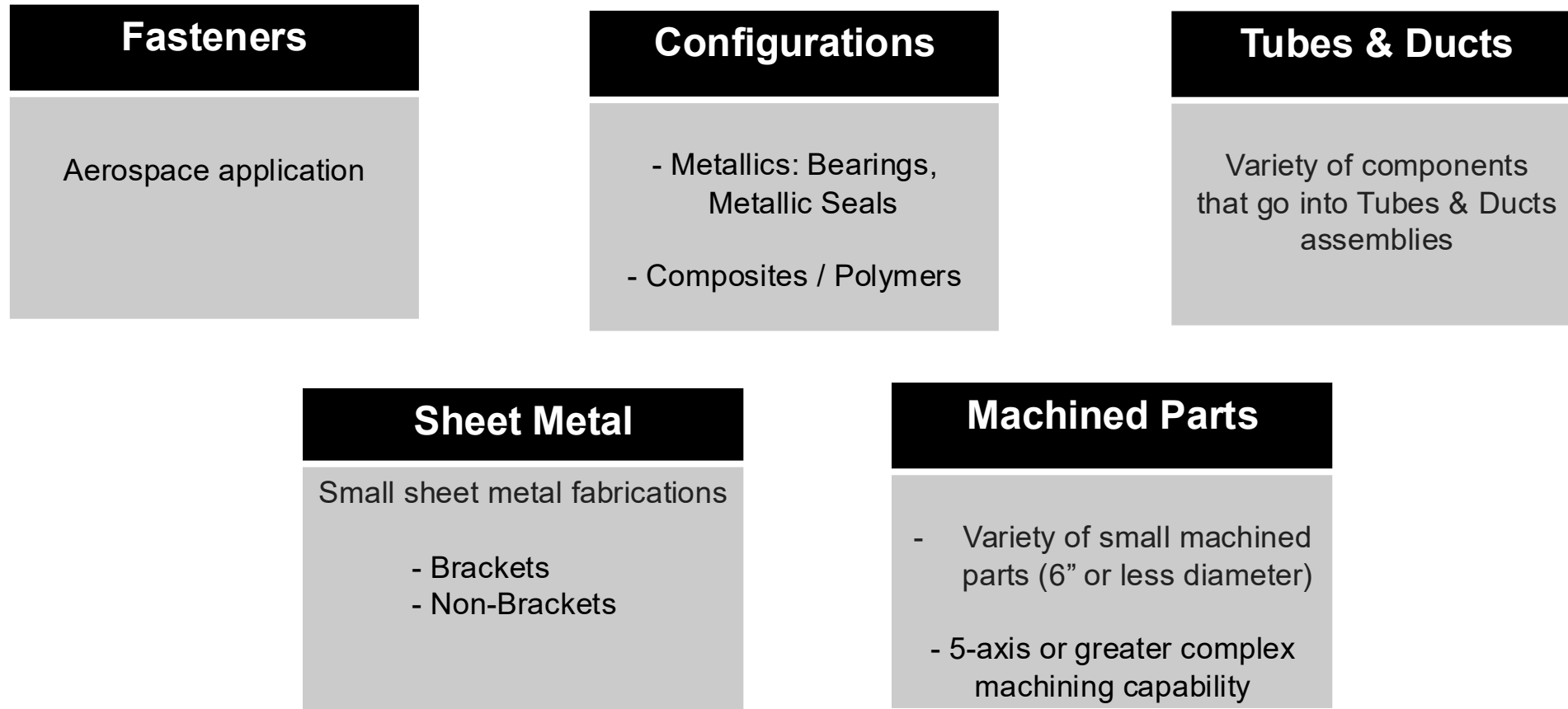
Materials	Castings	Forgings	Machining	Controls	Other
<ul style="list-style-type: none"> ▪ Casting ingot ▪ Super alloy ▪ Rare Earths ▪ Powder billet 	<ul style="list-style-type: none"> ▪ Single Crystal <ul style="list-style-type: none"> • airfoils ▪ Equiax <ul style="list-style-type: none"> • structural • tubes & ducts ▪ Tooling <ul style="list-style-type: none"> • core & wax dies ▪ Coatings <ul style="list-style-type: none"> • TB & EB 	<ul style="list-style-type: none"> ▪ Closed die forging ▪ Isothermal forging 	<ul style="list-style-type: none"> ▪ Broaching ▪ Multi-axis, large envelope 	<ul style="list-style-type: none"> ▪ Electrical systems ▪ Fuel Systems ▪ Lube Systems ▪ Gearboxes 	<ul style="list-style-type: none"> ▪ Inspection technology <ul style="list-style-type: none"> • NDT ▪ Advanced manufacturing technologies ▪ High complexity, tight tolerance capability

NOTE : any supplier activity would be subject to United States ITC requirements (export control, license required).

Shared Hardware Solutions (SHS)

An ideal opportunities for Korean Small-and-Medium Enterprises in GE Shared Hardware Solutions space, GE sources more than just small parts. Common part families include fasteners, industry standard hardware, small sheet metal, and small machined parts (6" or less diameter).

Less common are the variety of components that go into Tubes & Ducts assemblies and configurations, i.e., seals, extrusions, tiny bearings.



NOTE : any supplier activity would be subject to United States ITC requirements (export control, license required)

Sourcing Commodities

Raw Materials

Machining Metal : Extruded/Rolled/Forged Al, Steel, Cu, Ni, Ti alloy in rod or block form

Investment Casting : Ingot

Plastic : Resin Torlon, 30% GF polyimide, nylon 66, PC

Metal Machining, Forming, Stamping, Assembly

AS9100 certified Al, Steel, Cu, Ni, Ti parts produced from CNC machining process includes milling, turning, drilling, hopping and tapping of through and/or blind thread holes, and finished by passivation, chromate, painting, selective anodizing. Assembly with screw, helical coil, epoxy shielding, brazing.

Throughput position <0.01", parallelism <0.002", radius & angular control, dimensional precision +/-0.005"), low electrical resistant, EMI/RFI shielding requirement.

Supplier with core skills in CNC tooling design and CNC multi axis machining programing design & process capability, engineering stack up, GD&T, lean manufacturing, project management, tool life cycle management, in process quality control, supply chain management, NDT such as X-ray, FPI, FA skills

Investment Casting, Machining

AS9100 certified investment casting part with Al, Steel, Inconel alloy base materials, follow by secondary CNC machining process and finished by passivation or painting.

Supplier with mold flow stimulation for gating, overflow location and size determination, HIP (hot isostatic press) process to eliminate the porosity and increase part overall integrity. NDT such as X-ray, FPI.

Surface Finishing

NADCAP certified passivation AMS2700, chromate MIL5541, painting, selective anodizing MIL-8625, HiP EN AMS2404. Labor intensive masking and appearance inspection. NDT such as FPI, MPI, spectrophotometer, Eddy Current, ultrasonic testing, FA skills cross section, abrasion, adhesion test. Lab with chemical titration.

Heat Treatment

NADCAP certified nitriding, annealing, tempering, FA skills hardness testing, cross section microstructure analysis

Plastic Machining, Injection Molding, Overmolding, Connector

AS9100 certified Part with thermoplastic or composite base materials produced from CNC machining process, injection molding, overmolding OR combination of both. Typical materials are Torlon, 30% GF polyimide, nylon 66

The suppliers are expert in tooling design, CNC machining, materials selection, burrs control, cleanliness (clean room environment), plastic post processing such as annealing. Knowledge in sealing gap between metal and plastic, dielectric strength

CCA/PCBA/Transformer/Wound/Exciter

AS9100, NADCAP, IPC-J-STD-001 class 3 certified with E2E contract manufacturing services from the designing, purchased and management of BOM (PWB, active & passive COTS components, interconnect (COST or customized), assembly which covered the SMT (leaded & lead free), manual soldering & box build assy, testing, finishing of conformal coating and rework for field repair/warranty support. Suppliers are SME in supply chain management, SMT, manual soldering, brazing, board washing, trimming & stripping of terminal lead plating, conformal coating, wire hardness, MSD, ESD, COTS supply chain, LTB & EOL, traceability management; proficiency in SMT process characterization, 3D solder joint NDT & FA problem solving.