Deep Supply Chain Tiering

1st Tier

2nd Tier

3rd Tier

4th Tier

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Specialization

2.5" Disk Drive
- Housing
  - Motor assembly
    - Motor bearings
    - Stator
  - Platter assembly
  - Head assembly

Display Backlight Assembly
- Brightness enhancing film
- LED lighting assy
- LED bar array

TFT-LCD Module Assembly
- Bezel Assembly
- Display Drivers
- Flex circuits
- TFT-LCD Module
  - Optical glass sheets
  - Polarizer films
    - Cellulose triacetate sheets
    - Various chemicals
  - Color Filter Dies
  - Indium Tin Oxide
  - Amorphous silicon for sputtering
  - Lots of tools
    - Tool components (many)

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Optical Engine
ZEISS, Oberkochen, Germany

Cooperative R&D
IMEC, Leuven, Belgium
Albany NanoTech, Albany NY

Semiconductor Fabs
Intel, OR, AZ, Ireland, Israel
TSMC, Taiwan (USA)
Samsung, Korea, USA

OSATs
ASE, Taiwan
Amkor USA/SE Asia
JCET, China
SPIL, Taiwan/SE Asia
...

Design Tools
Synopsis, USA
Cadence, USA
Siemens-Mentor, USA
...

EUV Lithography Tool
ASML Holding, Veldhoven, Netherlands

Fabless Chip Companies
Apple, Qualcomm, Nvidia, AMD, ...

EUV Light Source
Cymer, San Diego, CA

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4-Androstenedione
Basic starting material for many steroid drugs
Largest Manufacturers:
Yicheng Goto Pharmaceutical, China
Bayer AG, Germany

Testosterone and Testosterone Cypionate
Produced by Aspen Pharmaceuticals in the Netherlands
Uses: Hormone therapy

Hydroxyprogesterone Acetate
Produced by Chinese manufacturer

Medroxyprogesterone Acetate
Pfizer: Provera®
Produced by Farmabios in Italy
Uses: Contraceptive, endometriosis, menopausal hormonal therapy

Spironolactone
Pfizer: Aldactone®
Largest Manufacturers:
Tianjin Jin Jin & Tianjin Tianyao, China
Uses: Treating fluid build-up due to heart failure, liver scarring, kidney disease; hormone therapy

Exhibit 5

Top European Countries for Pharmaceutical Exports to USA
- Ireland
- Germany
- Switzerland
- United Kingdom

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Voestalpine – High Performance Metals
Linz, Austria
High performance metals
ONLY approved base metal source
NO domestic supplier can meet Boeing/Airbus specifications

Long-Stanton Manufacturing Co.
West Chester Township, Ohio
Manufactures mounting bracket for carbon fiber brakes on Boeing 787 (and other commercial aircraft)

Boeing 787 Final Assembly
North Charleston, South Carolina
Photo: Post & Courier

Messier-Bugatti-Dowty – Safran Landing Systems
Vélizy-Villacoublay, France
Incorporates brackets in carbon fiber brakes, integrates brakes into landing gear
Photos: Safran Landing Systems

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