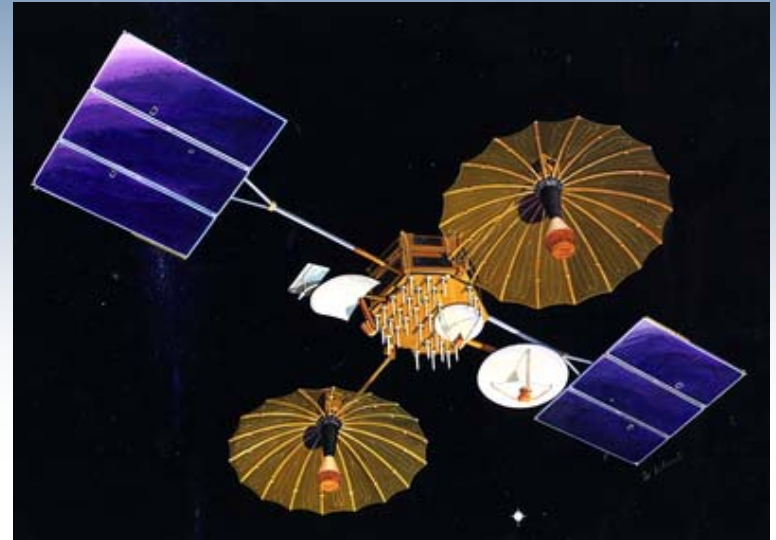


Welcome to Luma Metall



The city of Kalmar

Company information

Head office and manufacturing in Kalmar, Sweden.

American owned.

Started 1930 as Lumalampan AB.

Became Luma Metall AB 1994.

Precious metal plating technologies and wire drawing.

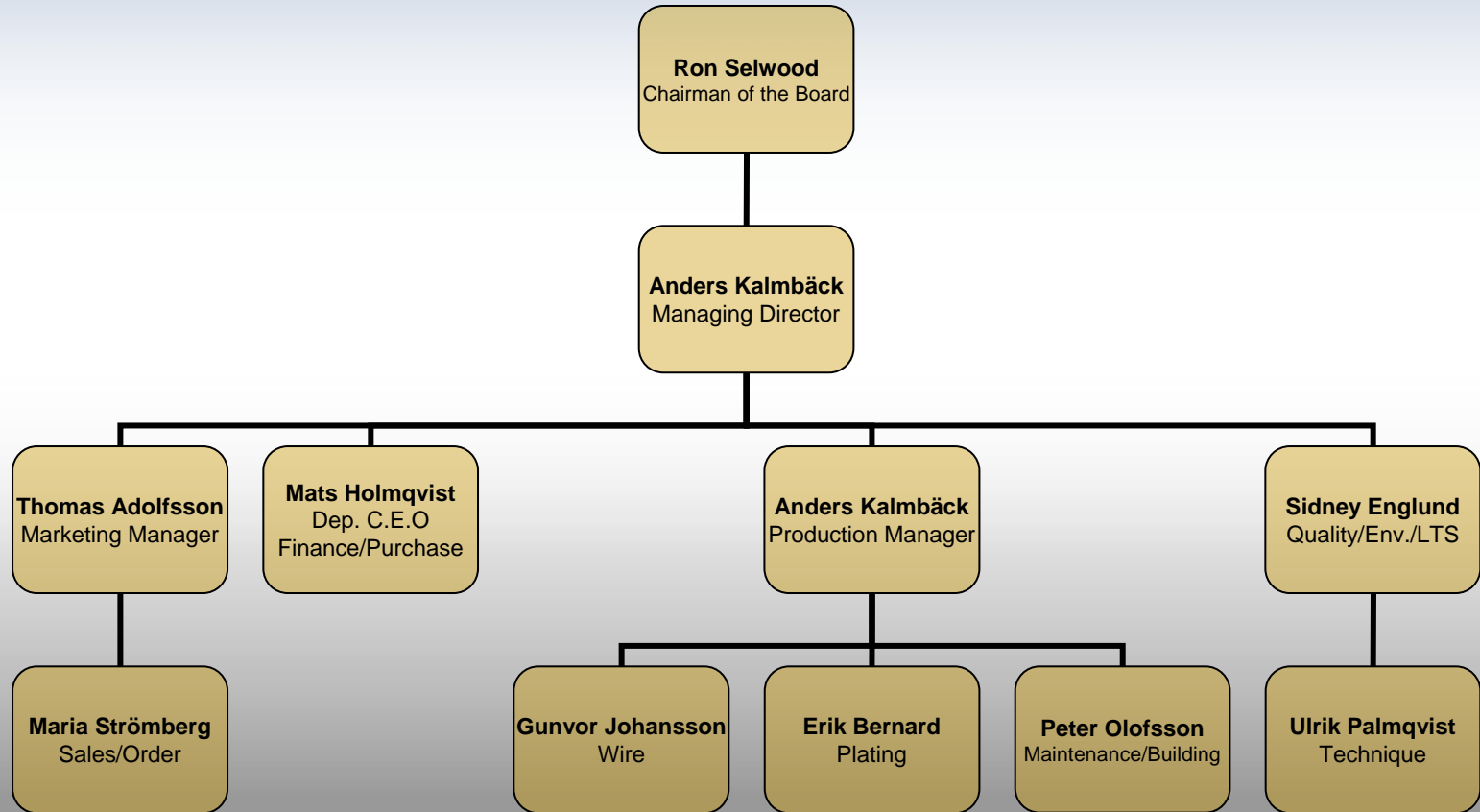




History of Luma Metall AB

- 1930 **Lumalampan AB** establish in Stockholm. Owner KF
Started manufacturing of **Incandescent Light Bulbs**
- 1935 Luma began the production of **Tungsten Wire** for its own **Filaments**
- 1943 **Molybdenum Wire** was added to the production program
- 1954 **Gold plated wires** for electron tubes was added to the program.
- 1955 **Tungsten Rhenium** which offers the possibility of high tensile strength.
- 1976 All wire production moves to **Kalmar**.
- 1994 **LUMA METALL AB** became an independent manufacturer owned by Atle.
- 2003 **Change business direction to be quality leader of Gold plated and polished wire.**
Research started Stop production of filament
- 2004 LUMA METALL AB was acquired by **SMG Group, USA**
- 2005 **Purchase of pilot line**
- 2006 Investment are made in a new advanced precious metal plating line and an advanced polishing line. Even a big investment for environment.
- 2007 New Management team

Luma Metall organization



Business concept

The Future isn't Wire-less.

Luma Metall AB shall:

- develop, produce and supply global markets with precision wire products with highest quality standards.
- give priority to markets where gold plated wire is demanded and put emphasis on selected customers to obtain long-term relations regarding product development and sales.
- promote its products worldwide through service minded sales staff and in close cooperation with skilled partners.

Company goals are to:

- ✓ Have the highest quality rating
- ✓ Have the highest level of technical service
- ✓ Establish partnerships with top-level customers
- ✓ Make all necessary investments
- ✓ Have the highest trained employees



Why use Luma Metall as a supplier



1. Product quality → High yield; low total cost
2. Long experience → Meet special requirements
3. Application knowledge → Application specific product
4. Good reputation → Supplier confidence
5. Environment policy → According to laws & regulations
6. Technical Service → Quick technical support

LTS - Luma Technical Service



The technical competence of Luma is available to assist our customers.

- ✓ To solve technical problems
- ✓ To develop new products
- ✓ To design a material specification for the customer application
- ✓ To investigate take-off parameters for the customers spooling equipment
- ✓ To handle technical complaints or claims

Quality system & control

- ✓ ISO 9001:2000
- ✓ Crack detection
- ✓ Thickness control:
 - ✓ Weight in mg of 200 mm
 - ✓ On line laser measurement in process
- ✓ Surface control by Microscope
- ✓ SEM (Scanning electron Microscope)
- ✓ Tensile testers



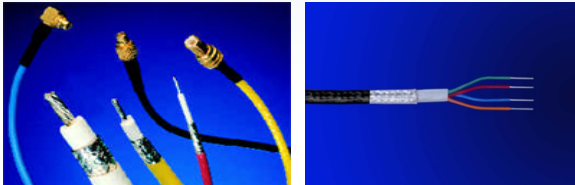
Luma Technologies

- ✓ Fine wire drawing
- ✓ Precious metal plating
- ✓ Spooling



Applications of gold-plated wire

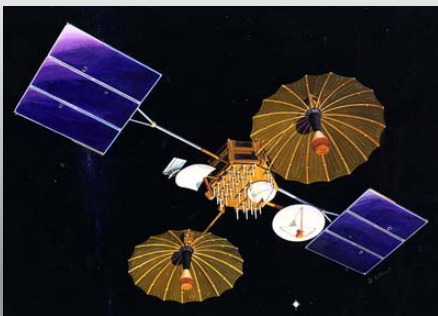
Conductors/special cables/ Connectors



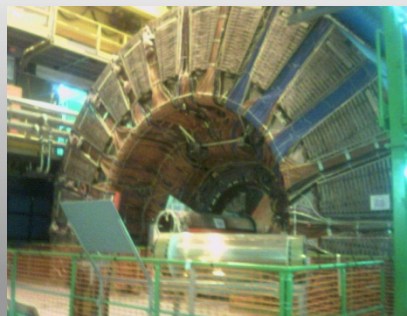
Printing



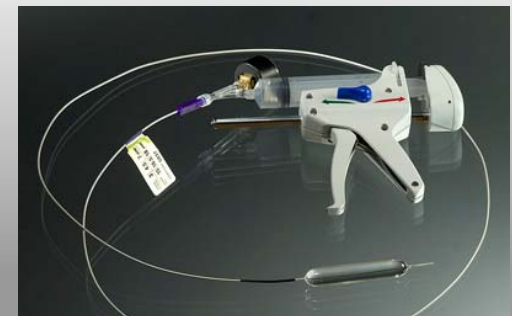
Antennas



Technical research



Medical



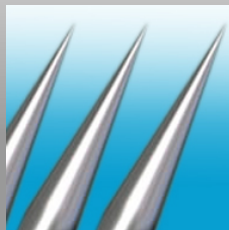
Wire guided Balloon Dilators

Applications of non plated wire

Automotive



Integrated circuit testing



Strings



Lighting



Description of our production process.

Wire drawing → Cleaning → Plating → Spooling



Why use gold plated wires

For some applications wires has to be plated to meet special requirements example:

- To protect the wire from corrosion
- To solder it together to other metals
- To reduce the secondary emission of electrons



Why use tungsten, tungsten/rhenium and molybdenum wires

Some characteristics of tungsten:

- Highest melting point of all metals
- Good conductivity for heat and electricity
- High E-modulus
- High strength at high temperatures
- Remarkable corrosion resistance to many acids
- High absorption capacity for radioactive radiation and X-rays

Some characteristics of tungsten with addition of Rhenium:

- Superior hot strength and vibration strength
- Greater specific resistance
- No brittleness in re-crystallized condition
- Higher re-crystallization temperatures
- Greater tensile strength
- Higher thermal stability

Some characteristics of molybdenum:

- High melting-point
- Low thermal expansion
- High elastic modulus
- High hot strength
- High thermal conductivity
- Low vapor pressure

Products currently produced by Luma Metall AB

Gold plated tungsten wire	from 5 to 500 microns
Gold plated tungsten/Rhenium 1% wire	from 5 to 500 microns
Gold plated tungsten/Rhenium 3% wire	from 5 to 500 microns
Gold plated molybdenum wire	from 20 to 500 microns
Gold plated stainless steel wire	from 20 to 500 microns
Gold plated copper wire	from 20 to 500 microns
Gold plated beryllium copper wire	from 20 to 500 microns
Gold plated brass wire	from 20 to 500 microns
Gold plated silver wire	from 20 to 500 microns
Nickel plated fine wire	from 20 to 500 microns



Products currently produced by Luma Metall AB

Tungsten wire

from 4 to 500 microns

Tungsten/Rhenium 1% wire

from 4 to 500 microns

Tungsten/Rhenium 3% wire

from 4 to 500 microns

Molybdenum wire

from 10 to 500 microns



Thank you for your attention

