**Lab Grown Diamonds for Jewellery Industry**

Diam Concept – The French lab-grown diamonds factory

Diam Concept uses state-of-the-art plasma CVD reactors to grow diamonds. The process of plasma miming simulates what happens in the Universe.

Diam Concept conceives plasma reactors and controls diamond growth.

LMJ used for:
- Coring for graphite removal around the CVD crystal
- Slicing seeds out of a CVD crystal

**Perfect thin and parallel cuts**

High Quality coring and slicing process

Main processing criteria:
- Variable size range (5x5 up to 8x8 mm)
- Coring process with minimal loss of the clean crystal material
- Cut thin slices with thickness of 250 µm
- Smooth surfaces / low roughness what requires minimal post treatments
- Getting max. number of slices out the CVD crystal

Machining technologies able to reach these criteria:
- Dry laser
- Laser MicroJet (LMJ) - water jet guided laser technology

**Perfect parallel Slices, production-proven process, higher yield**

LMJ advantages versus dry laser:
- 2 – 3 x faster process
- Perfect thin and parallel slices
- No V-profile in the slice
- Low roughness of Ra 0.3 µm
- Higher yield number of slices out of the CVD crystal due to minimal and constant parallel kerf

Installed machine type:
- 1 x DCS 50-5
- 100 W green laser