

### PRODUCT

#### Oscillating monolithic parts (powered the DEFY Inventor sold by Zenith-LVMH)

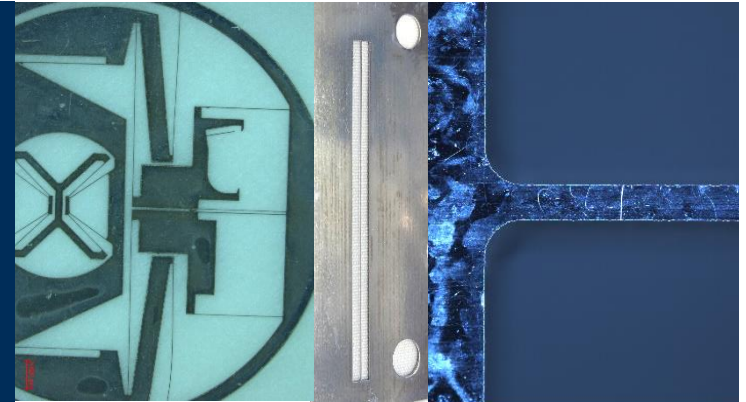
- Watch unique oscillators made of steel or copper
  - Various functional watch parts (springs, escape wheels etc.)
  - High tech regulation system made of 1 single part
- LMJ used for:
- Development and prototyping (0.2-2.0mm thicknesses)
  - Small series (1 to 100 pcs)
  - Prototyping & small series for LVMH brands of mechanical parts



### CHALLENGE

#### Flexible & stable tool for production

- Main processing criteria:
- No force / No deformation
  - Capacity to cut very thin bridges (30µm large, 300 µm thick, 30mm long)
  - Complex shapes
  - No burrs
  - No heat affected zone & Low roughness Ra
  - Narrow tolerances
- Machining technologies able to reach these criteria:
- UV LIGA (photolithography+electroforming) for larger series
  - Laser MicroJet (LMJ) - water jet guided laser technology



### SOLUTION

#### Best flexibility, unique cutting solution to reach expectations (shape-HAZ-tolerances-volumes) & ease to use

- LMJ advantages versus LIGA:
- Faster and cheaper for prototyping
  - Low cost for small series
- Installed machine type:
- 1 x LCS 300
  - Dual laser equipped: 100 W green laser and 20 W short pulse green laser

