**PRODUCT**

**Multi-Project-Wafer**

For their astrophysical research, the Max Planck Institute for Extraterrestrial Physics measures the radiation of distant objects in different spectral ranges from infrared to X-ray and gamma wavelengths.

For this purpose, highly sensitive detectors in the form of microchips are developed that must be produced and separated in small numbers on a silicon wafer.

LMJ used for:
- Dicing
- Single die cutting

**CHALLENGE**

**Perfect cut on a challenging material alloy**

**Platinum-Iridium** is a challenging material to cut/ablate due to its very high fusion and boiling temperatures.

Main processing criteria:
- T-cuts
- No thermal damage
- Low contamination
- Perfect verticality
- Narrow tolerances

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

**SOLUTION**

High geometric flexibility, no thermal influence

LMJ advantages versus blade sawing:
- Flexibility in cutting path
- Cutting line can stop wherever needed
- More dies per wafer
- No destruction of dies by sawing through

Installed machine type:
- 1 x LDS 300
- 100 W IR laser

Sources: MPI, websites, Synova