### Power Semiconductor Devices (IGBT-GTO)

**PRODUCT**
- High power components
- Monolithic single die concepts
- LMJ used for:
  - Thick silicon wafer downsizing

### Challenge

**CHALLENGE**
- Gentle, precise, and fast processing for large inline production
- Cutting 0.32-1.8mm thick wafers
- Main processing criteria:
  - Low/no cracks or chipping
  - Low contamination
  - High throughput requisite
  - Low consumable costs
  - Controlled edge quality
- Machining technologies able to reach these criteria:
  - Grinding
  - Laser MicroJet (LMJ) - water jet guided laser Technology

### Solution

**SOLUTION**
- Fact, clean, flexible – Ready for production
- LMJ advantages versus grinding:
  - Much better edge quality
  - Much less chipping and cracks: higher fracture strength
  - Any shape possible (incl. flat or notch)
- Installed machine type:
  - 4 x LDS 300-M
  - 100 W green laser

Sources: ABB websites, Synova