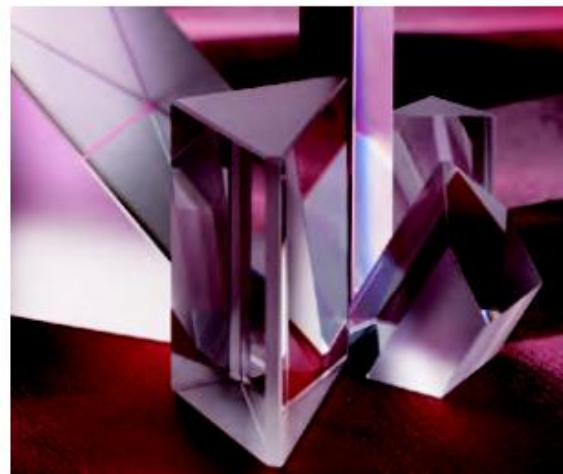




OPTOSIGMA EUROPE

Bridging the Optical Coupling Gap



How to get to the Eiffel Tower ?

Rope Walking



- **Very Cheap**
- **Fast Lead Time**
- **Very Slow**
- **High Yield**
- **Requires Extreme Skills**

Helicopter Ride



- **Fairly Priced**
- **Couple Months of Production**
- **Couple of Minutes**
- **High Skills (Pilot)**
- **Good Yield with risks**

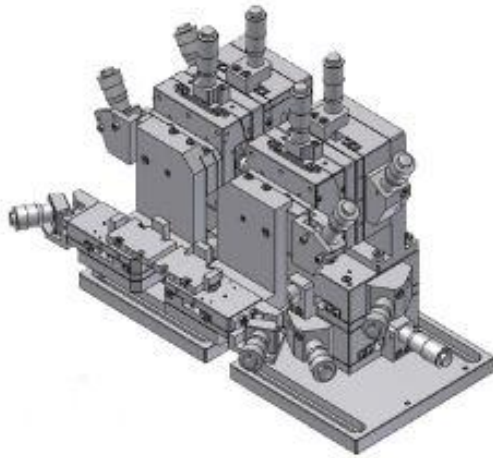
Bridge



- **Expensive (couple Millions)**
- **Long Lead Time (A year maybe ?)**
- **30 seconds to cross**
- **Need to not be immobile (legs or wheels)**
- **100% success (as long as no one jumps off to the river)**

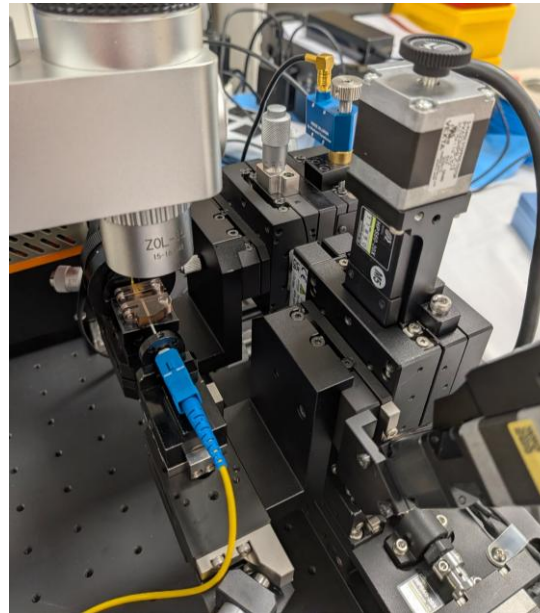
How to Align precisely today ?

Manual Station



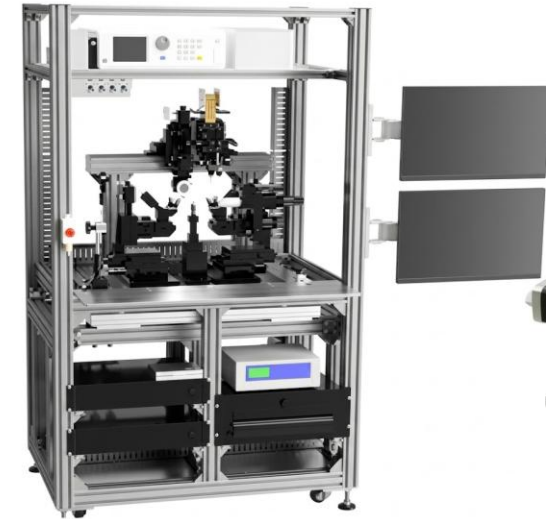
- Cheap (10K€)
- Fast Lead Time
- Very Slow (30min – 1h)
- High Yield (one wrong movement)
- Requires High Skills (High Masters / PHD)

Hybrid Station



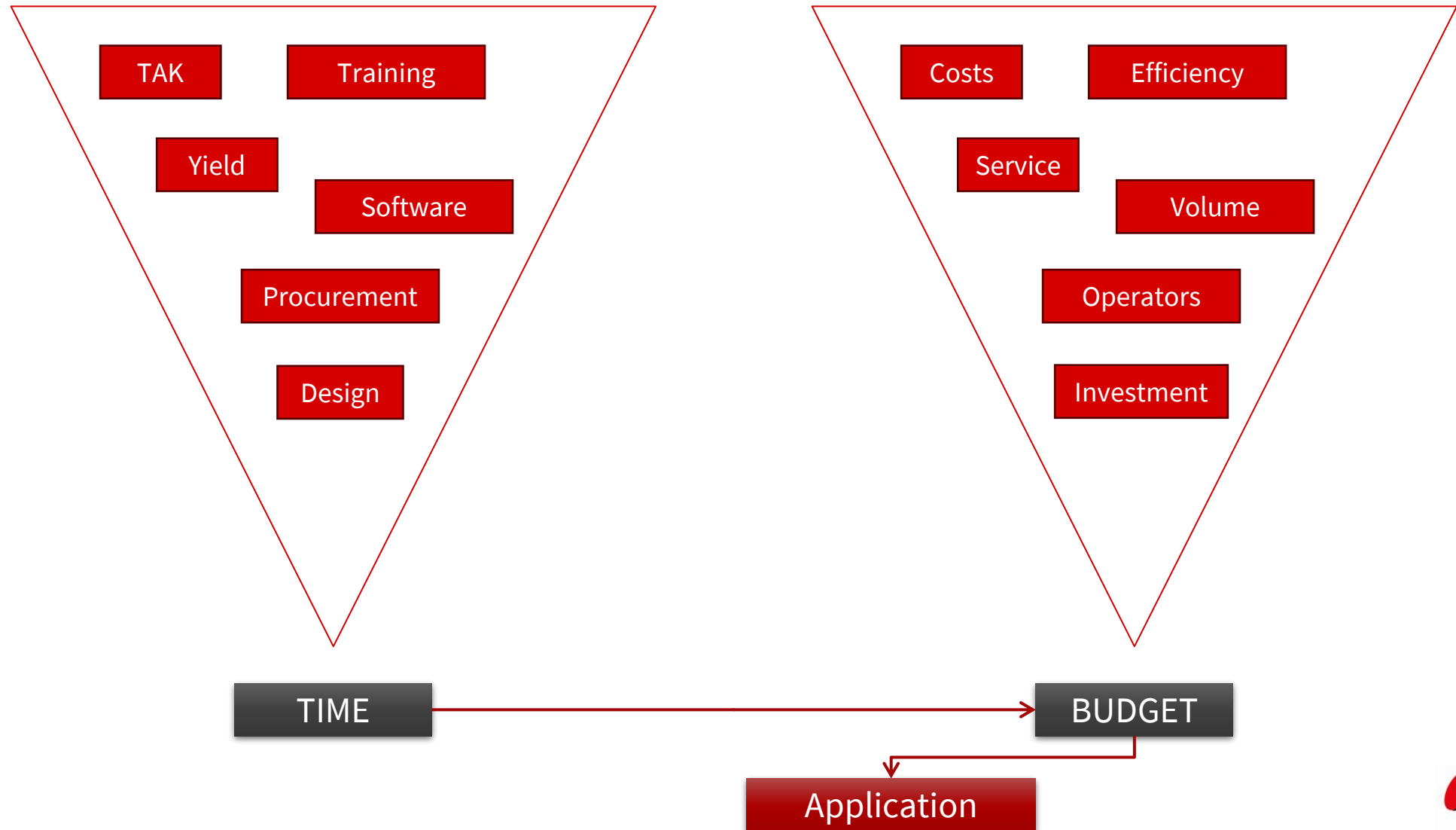
- Fairly Priced (20-30K€)
- Couple of Months of Production
- 15-25min to Align (coarse then fine)
- Still High Skills (Masters / PHD)
- Good Yield with risks

Automated Station



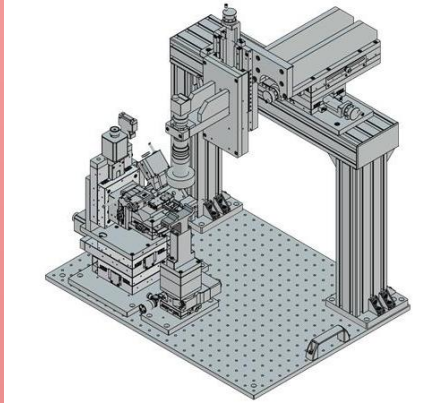
- Higher investment (From 50K€)
- Longer Lead Time (3+ months)
- 30s – 120sec TAK Time
- Any Operator (HUD quality)
- Very Controlled Yield

The Key Points to Consider !



Middle Grounds of Automation / All About Application

6 Axis / 1 Side

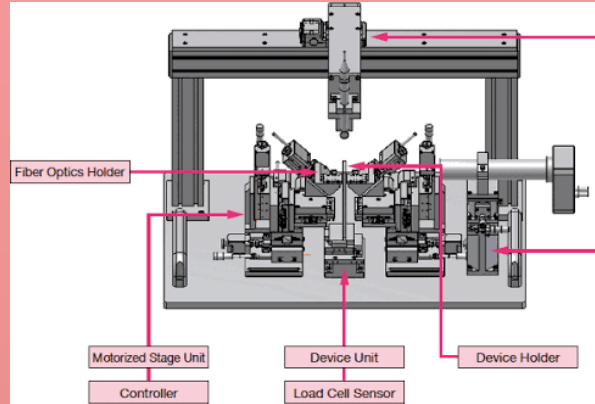


Applications

- Optical Transceiver
- Prototype
- Single Fiber Characterization
- PIC Alignment

40-60K€ / 2-4 months

12 Axis / 2 Sides

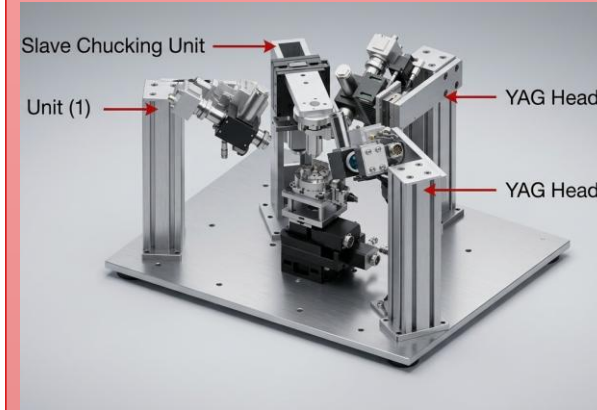


Applications

- CPO
- 2 side PIC Alignment
- Fiber Collimator
- Waveguide + Fiber Array

60-100K€ / 3-6 months

TOSA/ROSA/BOSA

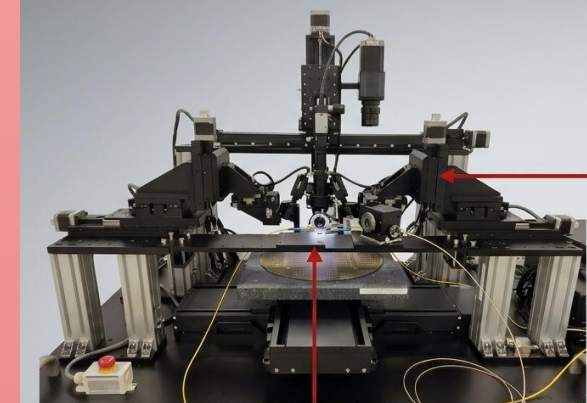


Applications

- Canned Transceiver / Receiver
- BOSA
- RGB Laser Combiner
- Yag Welding

150K€+ / 6+ months

On Wafer



Applications

- On Wafer Characterization
- FAU alignment on Wafer
- Finished PIC on Wafer

150K€+ / 8+ months