



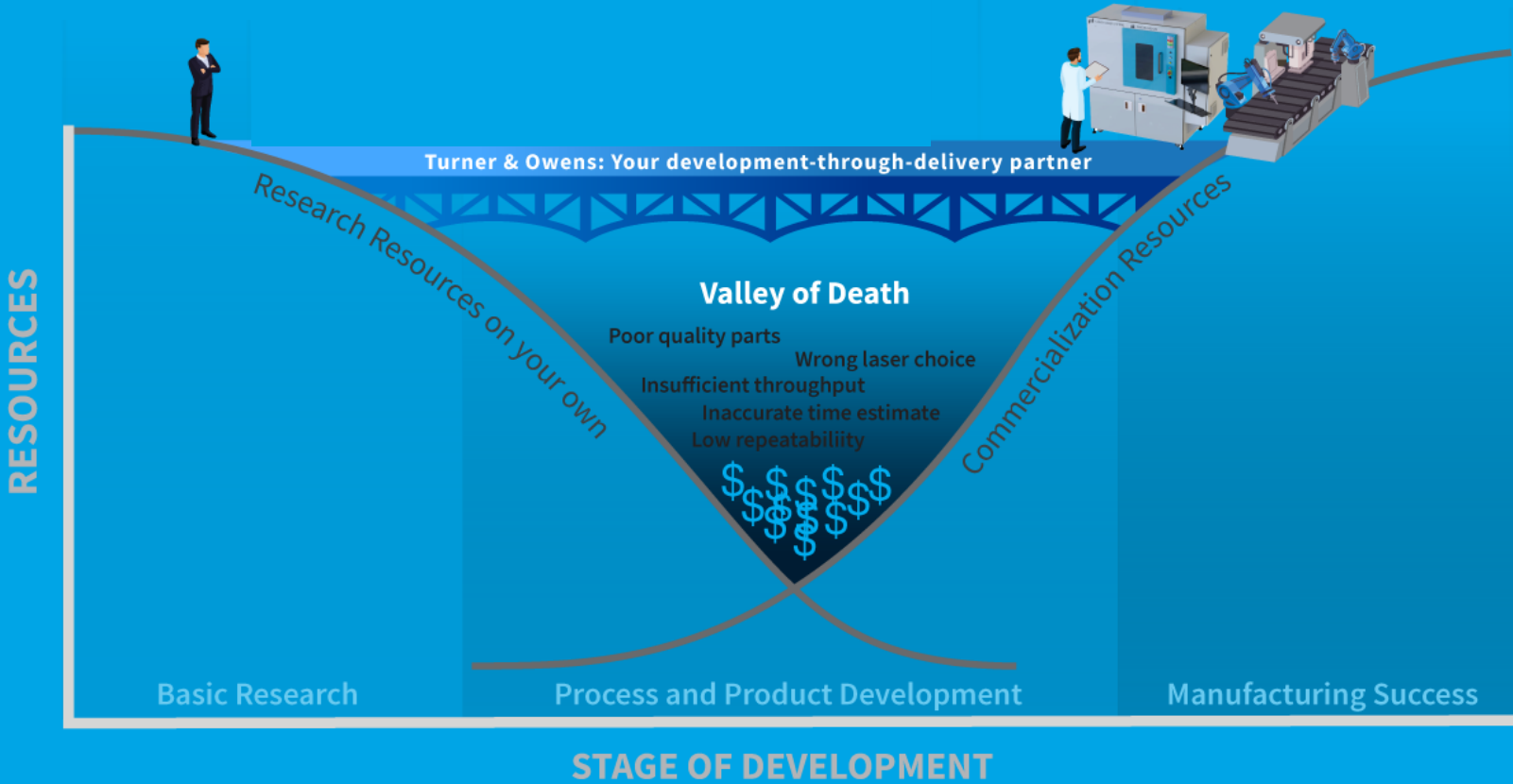
TURNER LASER SYSTEMS

**Turn-key laser solutions for advanced manufacturing**

Dr Mark Turner



# Pathway to Success



OUR PRODUCTS

# Process to Machine

Optimized for maximum ROI

- Laser & Beam Delivery
- Part handling, debris management
- Safety & Sensors
- Motion & Vision
- Automation compatible (e.g. EFEM)



**Determine the  
Right Laser**



**Make Your  
Part to Spec**



**Qualify for  
Manufacturing**

Your Choice  
of Platform

+

Our Configuration  
(TLS Methodology)

=

The Right Tool  
Tailored for Your Job



Powered by DMC

## Software

Flexibility, precision, and control  
meets ease of use



An intuitive graphical interface for quick and easy operation and recipe development:

- CAD file import
- Recipe library
- Multi-level user-access
- Automatic vision alignment
- 3D part mapping
- Process development tools
- Data logging



# Laser Processes

High precision, micro features, excellent quality and reliability

## Materials

- Ceramics
- Glass (all types)
- Metals
- Polymers
- Semiconductor

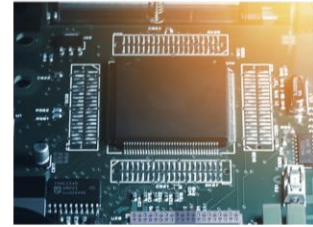
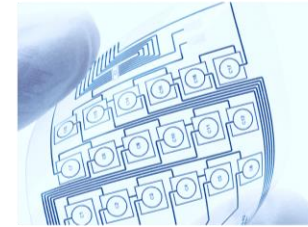
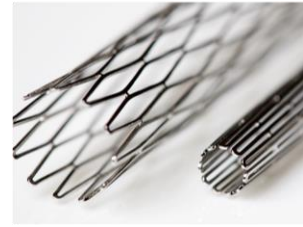
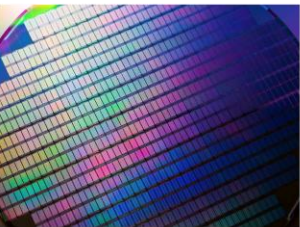
and many more!

## Form Factors

- Chips
- Curved materials
- Flexible electronics
- Large panels (e.g. GEN 4, 6, 7)
- Roll-to-roll
- Tubes
- Wafers
- Web handling

## Laser Processes

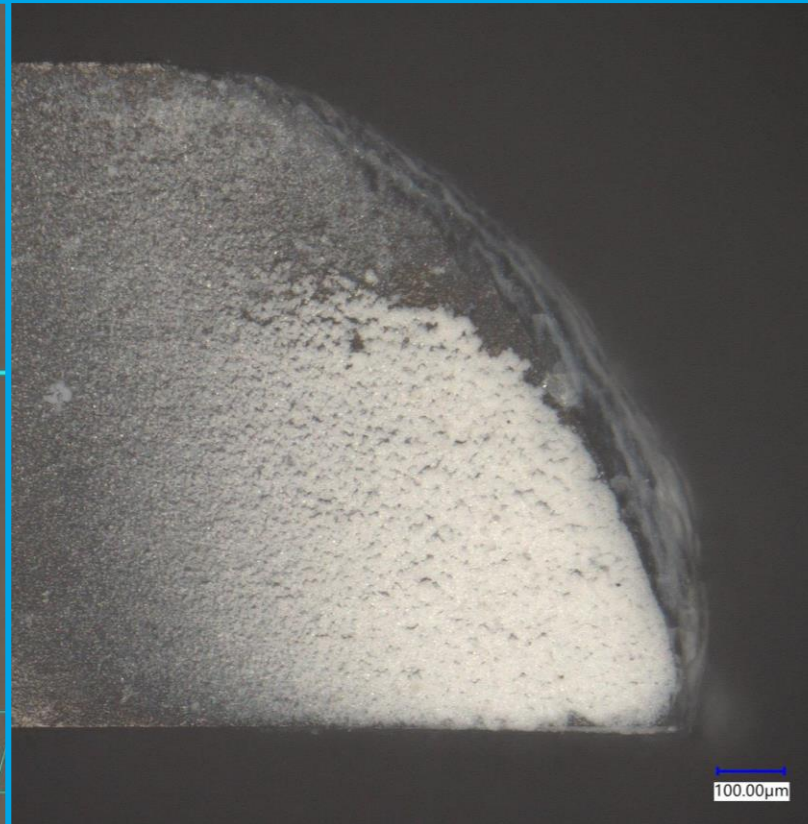
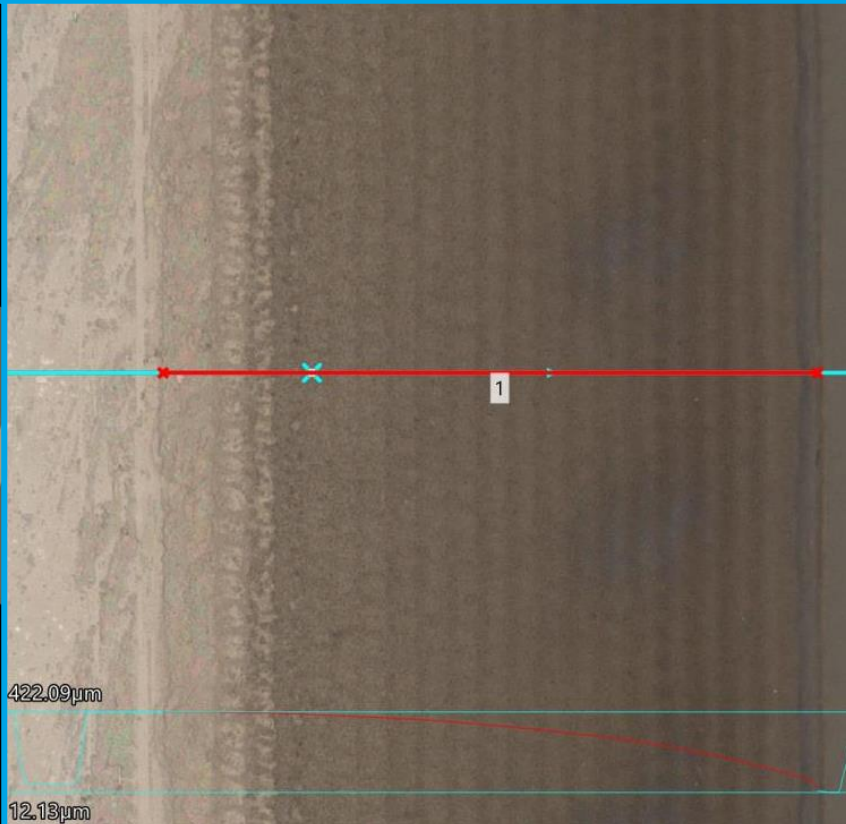
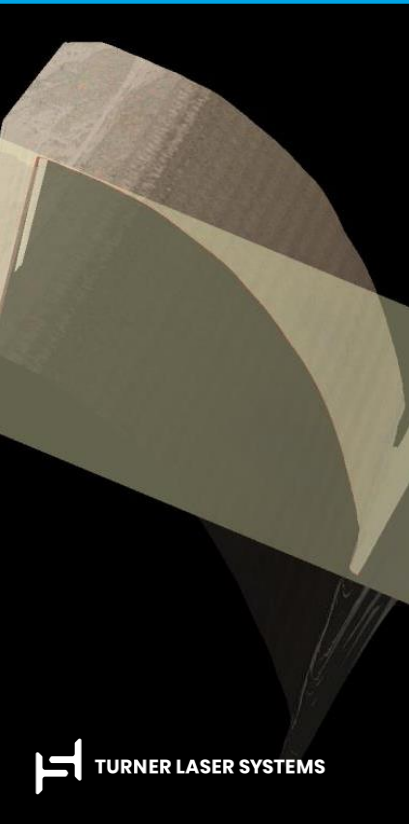
- Ablation
- Cutting
- Dicing
- Drilling
- Etching
- Micro-machining/marketing
- Micro-soldering
- Scribing
- Welding



OUR PROCESSES

# Fs-Laser Rounding of Dielectrics

- For Glass Medical Device & Consumer Electronics products
- Combined cutting & rounding in single process
- Rounding removes sharp edges with smooth feature & nice look
- Shape is controllable through software (**important!**)



OUR PARTNER

# Automation and ramp up with Owens Design

World class laser processing meets world class precision automation



## Owens Design

Your Design & Build Partner

From start up pilot line to high volume production:

- Automation, precision motion and materials handling
- Mechanical, electrical & software expertise
- 5,500 m<sup>2</sup> manufacturing facility Silicon Valley
- Successfully delivered 100% over 38 years!
- ISO 9001 & 13485 certification
- Approx. 2000 tools delivered worldwide



# Who do we like to work with?

## END USERS

End users looking to collaboratively partner with a *TRUSTED ADVISOR* to supply not only laser machines but also develop process, automation and provide full turn-key solutions (manual and fully automated)

## SUPPLIERS

Suppliers with unique technologies that serve the micro-machining industry providing new value, and looking for a systems integrator partner who drives projects and can help take your product into advanced manufacturing solutions





## TURNER LASER SYSTEMS

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