

VULQ1-S from QiOVA

*The fastest laser marking solutions
in the market*

**Enabling cost-effective individual
product traceability in parenteral
drug sterile production**

Company

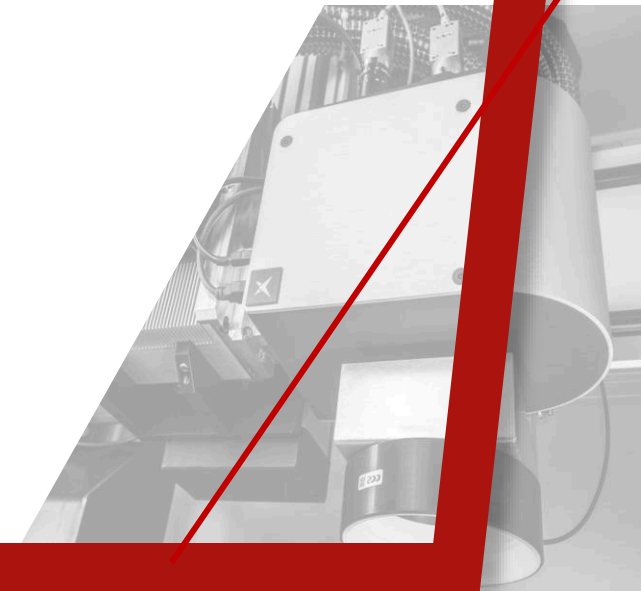
Our mission: better laser solution for a better manufacturing

- Founded 2011, VC backed since 2021 to market technology
- 15 people, highly qualified with 60% engineer or PhD level
- Production site in Lyon, France
- Sales and service site in Spain and USA
- Fully equipped application development laboratory
- Patented technology based solution offer, offering **market leading marking speed to enable cost-effective individual product traceability in high volume production**



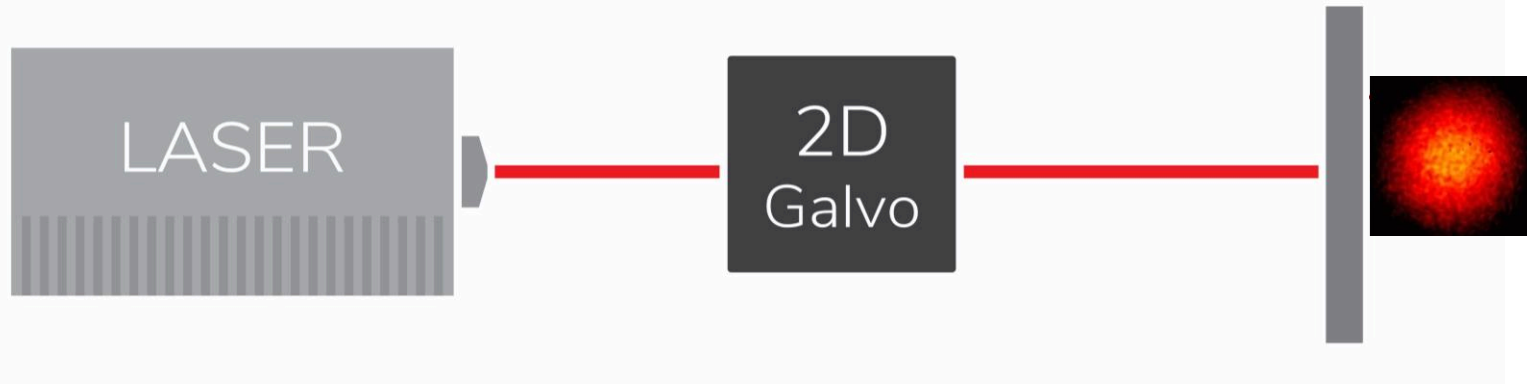


Technology & products



Laser marking is great but slow...

Now it is just great with our patented VULQ1 technology



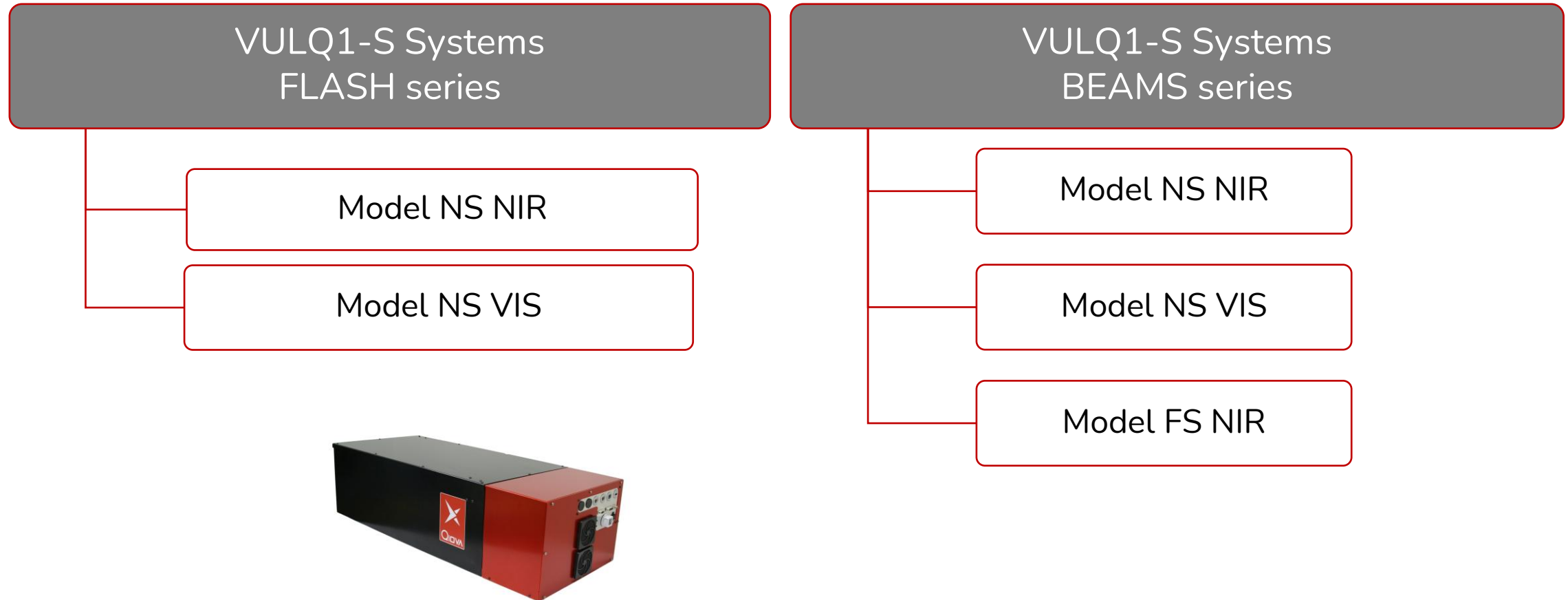
Standard laser processing
Sequential, like a pen on a
sheet of paper
→ **slow...**



Programmable
multibeam laser processing
Dynamically parallelized, like a
digital mask approach

Faster
More efficient
More flexible

VULQ1-S Product Offer – Market leading marking speed



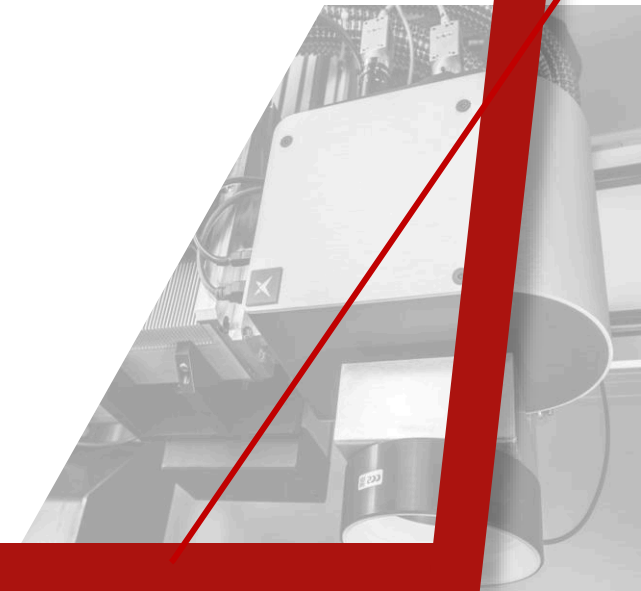
FLASH serie: one laser pulse = one marking, like 2D code (marking time < 10ns)

BEAMS series: typically 3-5x faster than conventional laser marking

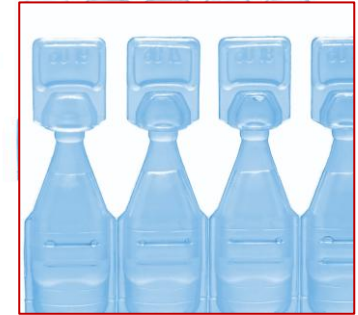
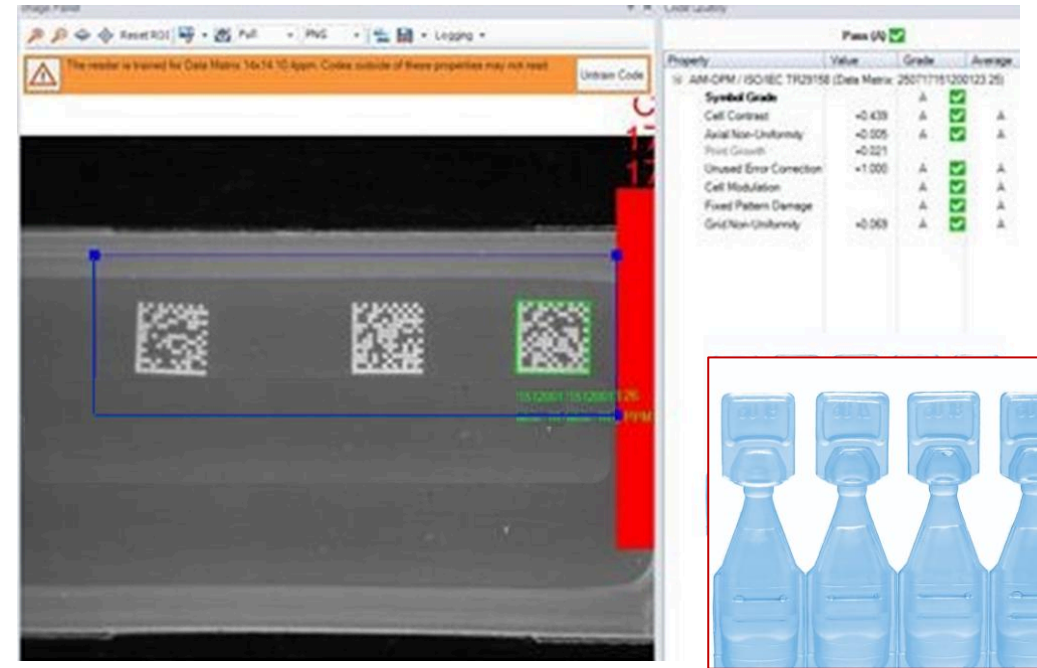
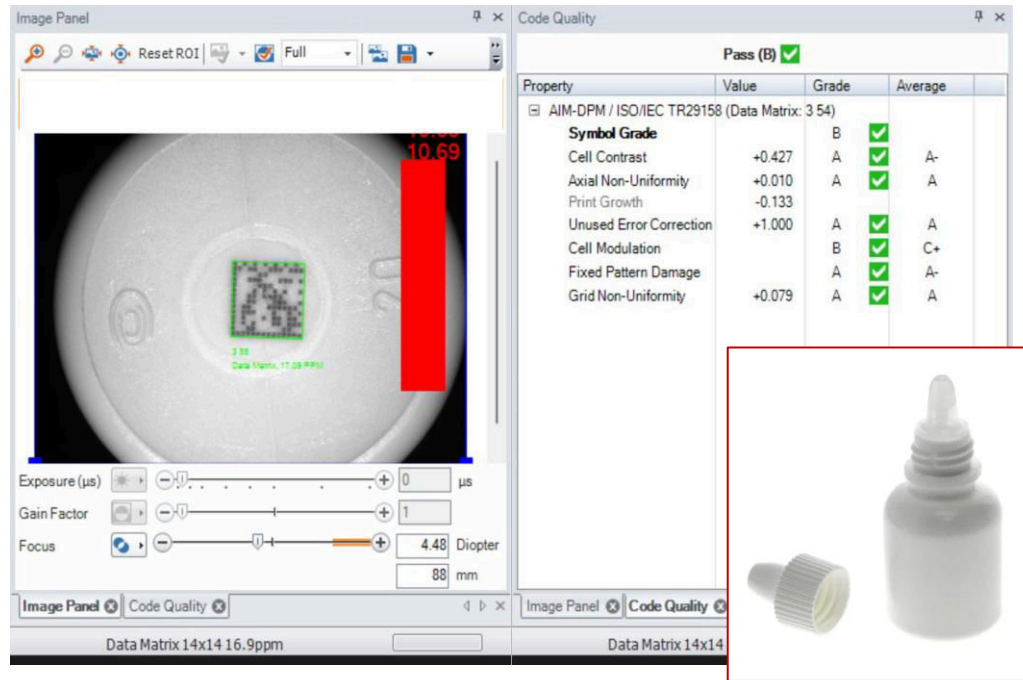


Applications for PHARMA

*A scalable solution for
permanent individual identification
of parenteral drug primary packaging
In fill&finish or packaging lines*



Sterile packaging – serialization of BFS & PFMD containers



- One single system to serialize 100M parts per year
- Grade A/B quality – 99,5% conform reading from installation
- Marking time 65ms on individual package <-> 55000 units/hour

In-line serialization of insulin cartridge plungers

MATERIAL:

•Elastomer

DM14x14 GS1 code:

•2,5mm

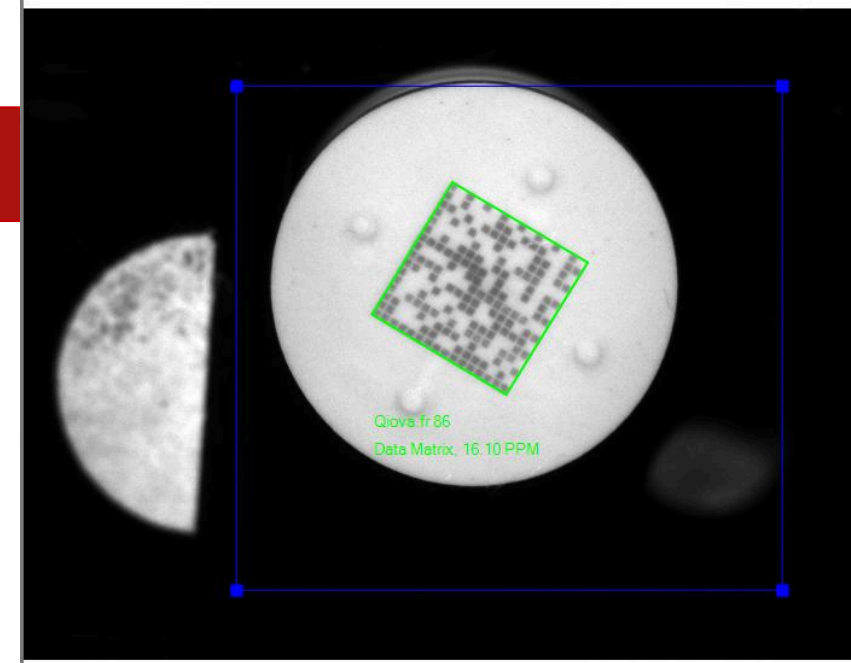
Product & process:

- FLASH NS VIS
- FULL-STAMP

Qualité du code				
Réussi (B) ✓				
Propriété	Valeur	Grade	Moyenne	
AIM-DPM (Data Matrix: Giova.fr 86)				
Note du symbole				
Contraste des cellules	+0.385	A	✓	A
Hétérogénéité axiale	+0.015	A	✓	A
Grossissement de l'im...	-0.152			
% d'erreurs non corrigé...	+1.000	A	✓	A
Cell Modulation		A	✓	B+
Dégradation d'un motif...		B	✓	B
Hétérogénéité du quad...	+0.056	A	✓	A

Market: Medical, pharmaceutical packaging

- In-line on-the-fly marking, 600u/min, DM 14x14
- Marking time <10ns - marking in one single laser pulse
- Simplified retrofit: point & shoot, +/-4mm depth of focus



Pre-filled syringes individual identification – Glass body marking

MATERIAL:

- Borosilicate glass

2D CODE TYPE:

- GS1: 10 digits, DM14x14

Product & process :

- BEAMS FS NIR laser
- PIXEL-STAMP



Market: Medical, pharmaceutical packaging

- 20 unique codes per second for serialization
- **Semi-invisible marking:** no perturbation to in-line screening
- Direct cold marking mostly preserving mechanical resistance

Pre-filled syringes individual identification –RNS marking

MATERIAL:
•Polypropylene

DM14x14 GS1 code:
•1mm

- Product & process :**
- BEAMS FS NIR laser
 - PIXEL-STAMP



Market: Medical, pharmaceutical packaging

- **Marking in <50ms**, robustly readable with industrial vision
- Femtosecond laser favored to ensure **homogeneous marking characteristics accross suppliers**
- **Simplified integration** with superior speed and robust marking proces

Key take-away

- **New laser marking solution enables in-line individual identification of parental drug primary packaging:**
 - PFS, Cartridges, Vials
 - BFS, PFMD
- **Fits all requirements, technically and economically for high volume production**
 - **Safe marking:** permanent high resolution marking on polymer, glass, aluminium,..
 - **Speed:** serialization speed fit with 600ppm
 - **Ergonomy:** in-line integration, fully automated operation, no regular maintenance
 - **Cost:** most competitive cost per part vs RFID or ink-jet
- **More details in the white paper available on our website: www.qiova.com**

Want to know more?

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**MEET US
on booth S19**

Thank you for your trust !

**If you have any questions, we
will be happy to answer them.**

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