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## About the company HDE Technologies, Inc.

### COMPANY MISSION

- HDE believes that for the best results, people working in industry should receive quality technical education.
- HDE also believes that people working in industry should have the technologically (and economically) the best tools available.
- HDE's 'trade mark' is prompt response to customer inquiries. Also the best quality of service delivered to meet the customers' needs and their quality requirements.
- HDE provides updates to the information covered in the Laser Welding Technology courses to those who attended it – after the courses were completed.
- The Customers' success is HDE's success.

### COMPANY BACKGROUND

- HDE Systems, Inc, the predecessor of HDE Technologies, Inc. was incorporated in the State of California in **1976**. It is believed that HDE was the second contract shop and laser systems builder in the **WORLD!**
- The founder of HDE, Simon L. Engel, developed the precision hole drilling technology in **1976**. This resulted in getting contracts for contract drilling of jet engine combustors and blades and to build sophisticated multi-axis laser systems.
- HDE built its first laser system for the drilling of fuel injection holes in turbine engine combustors in **1978**. It was a 5 – axis machine, using stepping motor drives and punched 8-channel tape as the program and storage media.

- In 1980 HDE built the first 5 axis laser drilling system for the drilling of cooling holes in jet engine blades.
- In the years 1978 to 1984, HDE sold, designed, built and delivered 54 laser systems. About ½ of these systems were designed for laser welding. In 2013 (more than 30 years later) HDE found out that some of these HDE Laser Systems are still working and running production!
- In 1984 (approx) HDE changed its business model and pursued contract research work and contract laser processing.
- In 1998, 22 years after starting the Company, the business model was changed again to pursue laser technology education and technical support to the industry.
- Today HDE Technologies, Inc. is a leading provider of education and training in the field of laser welding, laser cutting and laser drilling. Over the years, since 1978, HDE has provided training to approx. 3,500 persons. The HDE classes are offered on the regularly scheduled times in various strategic locations in the USA.

#### **PRINCIPAL INSTRUCTOR – Simon L. Engel**

- Simon L. Engel is considered to be one of the ‘first generation’ of technical people who grew up with the development of high power lasers and their industrial applications.
- He earned his B.A.Sc. in Mechanical Engineering from the University of British Columbia, in Canada. His ‘majors’ were mechanical design, optics and lasers.
- Owner and Operations Manager of his previous company, HDE Systems, Inc., a laser systems and contract laser applications, for over two decades.
- Past Technical Director of the Laser Welding Certification program at EPD of the University of Wisconsin.
- Retired Principal instructor of all Laser Application courses at EPD of the University of Wisconsin, for 34 years.
- Laser Applications Lab manager at GTE Sylvania.
- Sr. Laser Process Development Engineer at Caterpillar Tractor Co.
- 8 US Patents and numerous technical publications.

- Vice Chair of the AWS C7.4/C7.4M:2008 Laser Welding Standard and C7.2M:2010 Recommended Practices of Laser Beam Welding, Cutting and Allied Processes Committee.
- Columnist of 'Laser Welding Q&A' in the AWS Welding Journal.
- Member of AWS, LIA and SME (life member).
- Past Chairman of a number of technical conferences for SME and ALAW.
- His company, HDE Technologies, Inc. is an approved supplier to most major corporations in the Automotive, Medical Device, Pharmaceutical, Aerospace, and Electronic Components industries.
- Starting approx. in 2010, HDE invented, developed, tested and now is selling what is believed to be the first ever real time Pulsed Laser Weld Monitoring system. The technology is so new that a US Patent was filed.

## **COMPANY CREDENTIALS**

- HDE is an approved supplier to almost all major automakers, auto-component makers, medical device manufacturers, pharmaceutical companies, aerospace company and several US Defense Contractors, etc.
- HDE is listed as a US Government approved supplier and has a specific CAGE – Code.
- The company actively participates in the activities of several professional organizations – supporting member education and the establishment of Industry Standards.

***Welcome to HDE Technologies, Inc.***