

Report on activities of Working Group V-5 "Industrial Photogrammetry" from 1978-1980

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Based upon a resolution in the Helsinki Congress 1976 and after preliminary discussions the working group came really into existence at the Stockholm Symposium Commission V 1978. It finds its point of departure from the fact, that still many applications of photogrammetry in industry just happen due to the initiative of an individual photogrameter in singular task and that - as a consequence - regular routine applications are far from being established. So one of the questions underlying the work of the W.G. was and is, whether it is possible to promote photogrammetry to a routine technique in industry and in what fields of industry.

If we do a very broad investigation into the potential of photogrammetry for the application in industry, we can discriminate between the following fields, as they are given for example by the different technical facultis of a university:

Part I.

- Civil engineering including buildings and tests for strenght of of material,
- Ship buildings, off-shore marinestructures,
- open pit and underground mining,
- chemical engineering ("Apparatebau")
- Engergy-engineering, atomic plants
- Aircraft- and space engineering

Part II.

- Mechanical engineering (automobils, machines-, etc.) with planning and development, manufacturing, quality control,
- Electrical engineering.

With respect to photogrammetry the fields of part I can be characterised by the fact, that they deal with rather larger objects, manufactured as individual pieces or in small series whereas in the activities of part II large series of objects are manufactured, often with high and extreme demands to accuracy.

We find already many applications of photogrammetry in part I, however sofar very few in part II. Consequently the WG V-5 in the last 2 years sawtheir mainfield of interest in the investigation of potential of photogrammetry in the industries of part II.

After two sessions in Stockholm 1978 and consecutive letters the following colleagues became members of the W.G. or showed interest:

O. Altan, Turkey; K. Atkinson, U.K.; W. Bakhuizen, Sweden; M. Blaustein, France; H.P. Bopp, Germany; A. Clasen, Germany; N.W. Chisholm, U.K.; E. Cotovanu, Romania; M.M. Datta, India; H. Ebner, Germany; A. Grün, Germany; H.M. Karara, USA; A. Gutu, Romania; L. Homorodi, Hungary; H. Krauß, Germany; K. Linkwitz, Germany; S. Mogilny, UdSSR; B.G. Müller, Germany; E. Olteanu, Romania; T. Oshima, Japan; A. Popa, Romania; D. Radulescu, Romania; H. Salmenperä, Finland; E. Seeger, Germany; Z. Sitek, Poland; A. Tolea, Romania; G. Voss, G.D.R.; B. Wrobel, Germany; S.A. Veress, USA; A. Detrekoi, Hungary; W. Faig, Canada; O. Jacobi, Denmark; A. Georgopoulos, U.K.; A. Grimm, Germany; H. Meckenstock, Germany; G. Töpfer, Germany; M. van Wijk, Canada; F. Heimes, Germany; J. Rady, Switzerland

By mutual correspondence this group agreed to start work by concentrating on

- contacting in their countries different institutions at universities, private enterprises, etc. which are concerned with mechanical engineering. Where is photogrammetry used and where not? Do mechanical engineers know about photogrammetry? Which are their measuring tasks and how do they solve them? Could photogrammetry be used in a production and assembly line?
- W.G. member should look in their countries for professional organisations of mechanical engineers and send names and addresses to the Chairman,
- W.G. will look through different technical periodicals of mechanical engineering to possibly find hints on permanent measuring tasks and give a note to the chairman for further distribution to the other W.G. - members,
- contacts to IMECO will be established to obtain information about the international congress of this "measurement techniques in industry" organisation in Moscow 1979,
- Preparation of a meeting of W.G. member in Stuttgart 1979.

In execution of this agreements the W.G. had the following activities

- Questionnaires and correspondence among members following the Stockholm Symposium 1978,
- Letters and questionnaires send to companies of mechanical engineering (see invited paper Herbert Krauß!)

- Visits to several large companies around Stuttgart
- Meeting in Stuttgart in October 79 with about 35 participants, 8 papers, and an excursion to the Daimler-Benz company where mainly the laboratories of metrology and the car-performance test field were visited and members could test their feelings and response when driven in a 280 SE with 120 km/h through a vertically inclined sharp curve and then stopped abruptly by the electronic feedback brake system.

The program of the W.G. in its two sessions on Friday 18.7. and Monday 21.7. comprised

- Two invited papers on the potential of photogrammetry in industry, one given by Dr.-Ing. Dutschke who is a mechanical engineer at the Institute for Industrial Production at the University of Stuttgart and who will outline the measurement task as seen from his institute - and another one given by Dipl.-Ing. Herbert Krauß of Stuttgart who will report on the activities we had in setting up contacts with industry and who will describe the potential of photogrammetry as may be deduced from these contacts.
- One invited paper by Dr. Gates of the National Engineering Laboratories, U.K., on nonconventional measuring techniques,
- One presented paper by Prof. Dr. Oshima of Japan reporting about practical examples of photogrammetry in Japan.
- Presented papers on miscellaneous interesting applications
- Discussion, mainly with respect to the invited papers.