

Obituary for Prof. Dr.-Ing. Dr. h.c. mult. Gottfried Konecny

Prof. Gottfried Konecny, former head of the Institute of Photogrammetry and GeoInformation of Leibniz University Hannover, passed away peacefully on Thursday, 25 July 2024, at the age of 94. With his passing, photogrammetry and remote sensing has lost a brilliant scientist and science manager who was highly respected around the globe and tirelessly active, far beyond his retirement.

Gottfried Konecny was a visionary who, in the second half of the 20th century, significantly shaped his field worldwide and who is considered the European father of remote sensing. From the very beginning, his professional life was centred on the sustainable development of our environment. He was also a practitioner, a manager and a diplomat with the ability and determination to achieve his goals. The foundation of his great success was no doubt his ability to not only set his visionary goals but to also achieve them.

Gottfried Konecny was born on 17 June 1930 to German parents in Troppau, originally a small Moravian town with a diverse history and a population of around 30,000 at that time, now part of the Czech Republic. His youth in this multilingual region was characterised by the events before and during the Second World War, followed by flight and expulsion. After the war, the family found a new home in Neumarkt, Oberpfalz in Bavaria. Gottfried Konecny first became acquainted with surveying and mapping while still at school, first in 1945/46 as a surveying assistant in Troppau, then from 1946 to 1948 at the town surveying office in Neumarkt. After leaving school in 1950, he studied surveying at the Technical University Munich. Inspired by the then Professor of Photogrammetry, Richard Finsterwalder, he went to The Ohio State University in Columbus in 1954, equipped with a Fulbright Scholarship. It was in the USA that Konecny met Prof. Fred Doyle, who taught analytical photogrammetry amongst other subjects; Prof. Heiskanen was also one of his teachers. He obtained a Master of Science degree in 1956, and then returned to Munich to take his diploma examination a year later. Prof. Finsterwalder then recruited him as a scientific assistant at the Institute of Photogrammetry and Cartography, where he completed his doctorate in 1959 with a dissertation entitled "Aerotriangulation with convergent images". Although the measurement method did not find its way into practice at the time, Konecny's description and scientific evaluation of the method attracted great interest in the photogrammetry community¹. Today, convergent images obtained with penta cameras play an important role in mapping urban areas.

After completing his doctorate, Konecny moved to the University of New Brunswick (UNB) in Fredericton as an assistant professor. He was instrumental in establishing the first English-language surveying and mapping degree programme in Canada, which he headed as a full professor from 1966 onwards. By the time he left, the modest beginnings had become one of the world's most renowned addresses in surveying and mapping. He returned to Germany in 1971 and took over the management of what was then the Institute of Photogrammetry and Engineering Surveys (IPI – now the Institute of Photogrammetry and GeoInformation) at the University of Hanover (now Leibniz Universität Hannover) until his retirement in 1998. He led the institute in the North American style - internationally orientated and in a rather relaxed

¹ A. Schödlbauer, 2024, private communication.

manner based on trust, respect and tolerance towards his staff. After his retirement and into old age, he continued to devote his time to the Institute and was always available to the author of these lines as an experienced advisor.

Konecny realised early on that topographic data acquisition and updating was one of the essential prerequisites for the development of our living space, and that this could only be achieved from space, within an acceptable time and cost framework. This was the background to both Konecny's methodological fields of work - digital image processing, for example - and the instrumental developments he promoted. Shortly after his arrival in Hanover, the institute was able to purchase the first analytical plotter in Germany. The development of the digital correlator together with the Canadian, Gilbert Hobrough, should also be mentioned; this correlator was able to automatically generate digital terrain models already at the end of the 1970s. Konecny was also appointed Principal Investigator of the Metric Camera, the world's first photogrammetric space camera, which flew on the NASA Space Shuttle in 1983. With the help of this mission, he was able to experimentally demonstrate the value of space images for topographic applications. At the same time, he became the spokesman for the DFG-funded Collaborative Research Centre "Remote Sensing Methods on Coasts and Seas". Later, the institute developed the world's first digital photogrammetric workstation, which was presented at the Hanover Fair in 1987. As early as 1980, Konecny also took over the scientific supervision of the development of a digital cadastre for the entire state of Kuwait, and later worked on similar projects in Dubai and Saudi Arabia.

Another way of illustrating Gottfried Konecny's scientific work are the countless publications which bear his name. Alone during his time in Hanover, he supervised 47 dissertation and two habilitation theses, achieving major progress in science and at the same time, making a significant contribution to the transfer of knowledge into practice.

Konecny was equally successful as a science manager. He was President of the German Society for Photogrammetry and Remote Sensing (DGPF) from 1972 to 1976, and Chairman of the European Association of Remote Sensing Laboratories (EARSeL) from 1993 to 1997. The highlight of his work as a science manager was undoubtedly his role in the International Society for Photogrammetry and Remote Sensing (ISPRS): the World Congress was organised under his leadership in Hamburg in 1980, (when the addition of "and Remote Sensing", which he had favoured, was introduced), as well as his ISPRS presidency from 1984 to 1988. The basis of these successful activities was the personal relationship he harvested with colleagues and partners, based on trust, understanding for the concerns of others, and efforts to reach consensus, which was more important to him than formal issues. Over the years, these encounters resulted in an extremely strong network of relationships that opened many doors for Gottfried that remained closed to others.

Konecny also devoted himself to the field of knowledge transfer. He cultivated a large number of bilateral co-operations with universities from all over the world. A constant trail of visiting academics stayed at IPI for research and training purposes. Advanced training courses, the so-called Caravan Workshops, took groups from IPI, with Konecny at the helm, to all corners of the globe. The results of these trips were repeatedly incorporated into the courses in Hanover, which were always up-to-date and of course internationally orientated.

Prof. Konecny received a large number of high-ranking honours in recognition of his many achievements. In 1990, he was awarded the German Federal Cross of Merit First Class. He also received honorary doctorates from the National University of Tucuman (Argentina), the University of New Brunswick (Canada), Anna University (India) and the Moscow State University of Geodesy and Cartography (Russia), as well as honorary professorships from the University of Wuhan (China) and the Siberian State University of Geosystems and Technologies in Novosibirsk (Russia). Konecny has been an honorary member of ISPRS since 1992, and also of various national photogrammetric and cartographic associations, including the German Society for Photogrammetry and Remote Sensing (DGPF).

His success was possible due to his high level of intelligence, his excellent comprehension ability, his phenomenal memory and intuition, coupled with his humanity, enormous diligence, iron will and self-discipline. His visionary overview and global thinking, determination, assertiveness and persuasiveness on a large scale, and composure on a small scale, his broad curiosity about future developments, an understanding of and interest in history and traditions, together with tact, diplomacy and respect for others - and a good dose of humour - are the qualities that have characterised Gottfried Konecny throughout his professional life. He found the strength for these achievements in his private life, with his wife, who passed away last year after more than 50 years of marriage, and with his children and grandchildren.

With his death, we have lost an excellent scientist and an extraordinary human being and philanthropist. Our thoughts are with his children and his family, may he rest in peace.

Christian Heipke