REMARKS FROM THE OSTIV PRESIDENT

OSTIV regrets to announce the death of its Honorary Vice-President Dr.Willy Eichenberger, who died on December 29, 1994. In honor of his life and work an orbituary will be published in the next quarterly issue of *Technical Soaring* to appear in October this year as Volume 19, No. 4.

Having published a first short report written by by OSTIV Vice President Loek M.M.Boermans about the XXIV OSTIV Congress, held January, 12-19, 1995, we will report about this event in more detail in the forthcoming issues of *Technical Soaring*:

This issue contains a report about the work of 6 persons who were together awarded the OSTIV Prize 1995 on occasion of the Omarama Congress. Peter Selinger, a well-known aviation author and journalist, especially in the field of gliding history, has described the puzzle leading to the final development of industrial fiber productions of gliders and motorgliders.

– Dr. Manfred Reinhardt

AWARDEES OF OSTIV PRIZE 1995

To: Richard Eppler, Hermann Naegele, Rudi Linder, Eegen and Ursula Hanle, Ulrich and Wolfgang Hutter

by Peter F. Selinger, Stuttgart, Germany

Every second year, more precisely at every OSTIV (Organizastion Scientifique et Technique Internationale du Vol a Voile) Congress, OSTIV awards prizes for outstanding performances in and for the sport of soaring. In 1995, the OSTIV Congress was held at the same place and during the same period as the World Soaring Championships, which ideally connects the comparison of theory and experience with the rough reality of the world's best soaring pilots competing in skills, sailplane technology and weather knowledge.

The spirit of the awards is summarized as, "Partly independent and in competition – sometimes using third party knowledge in composite technologies – partly building on their own experience, creativity and cooperation, all seven prize winners together developed an outstanding part of the composite technology for sailplanes, opening the age of production of sailplanes in series.

The OSTIV Board justified their decision in an extraordinarily extensive citation which read, "The certification of composites as primary structure represented a great breakthrough over the best metal and wooden constructions. The first composite designs in the aeronautical industry were fiberglass sailplanes. This also meant development of new analysis methods for shells of unisotropic materials, and selection of fiber orientation, load paths and the beginning of the computer age in designing sailplanes."

The "FS 24 Phoenix" and "H 30" followed by the "H 301 Libelle" resulted in a quantum jump in aerodynamic performance. It revolutionized gliding by reducing the maintenance required, while fiberglass cockpits were made more crashworthy, being able to absorb more energy than those made of wood.

The fiber-reinforced plastic was introduced 40 years ago in sailplane construction and design, and for more than 30 years pure fiber shells without sandwich have been standard in production.

Richard Eppler and Hermann Nägele started a new era in sailplane construction, using glass fiber rein-

Rudi Lindner

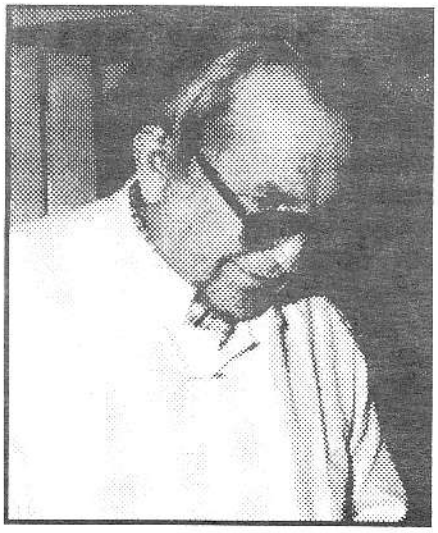
Richard Eppler

Eugen Hänle

Ursula Hänle

Hermann Nägele

Ulrich Hütter



Wolfgang Hütter

forced plastics in balsa-sandwich for the first time in their Akaflieg Stuttgart FS 24 Phoenix 16m sailplane, which had its maiden flight November 20, 1957. This Phoenix also showed the possibilities of a very light wing construction using a resolved threefold I-spar.

At the same time, those sandwich structures, introduced by Ulrich Hütter and Eugen Hänle had to prove function and life time in wind turbine rotorblades up to 34m in rough free air conditions as a test bed for future sailplanes. Not to forget is the spar cap production process for high loaded structures with rovings at a definite fiber-resin-relation, invented by Ulrich Hütter and Eugen and Ursula Hänle and well known as HH method. Their creations for load introductions into shell constructions stimulated generations of engineers and their designs.

Finally, the Glasflugel H 301 Libelle, a design of Wolfgang Hütter, based on his own war time wooden shell construction developments, and put into production by Eugen Hänle, became the most famous production sailplane in the early sixties, with its first flight on March 7, 1964. This open Libelle had for the first time a pure tip-shell, without any support material in between, in this case for the fuselage.

The new composites technology of these seven individuals complemented

by the already acknowledged OSTIV efforts of the Idaflieg students established the know how of today."

This citation covers in very strong and short words the credits of these seven prize winners, who created between 1951 and 1965, including Worfgang Hütter's 1943 war time developments for wooden shells, the basics for our super orchidees of the mid-nineties and the pleasure enjoyed by tens of thousands of soaring pilots all over the world in their noiseless flying with pure, real-time sun energy. Even though these accomplishments may fill whole books, it's necessary here to add some remarks.

Looking back to those ages, one could ask why these seven pioneers didn't cooperate more with each other. Even today, between the competing suppliers on the market in fiber-reinforced plastic sailplanes, there is cooperation, e.g. in the Sailplane Development Panel of the OSTIV, but there is also competition in material's application, in mechanical and aerodynamical construction and especially in the priorities between the single characteristics of the design. So it happened 45 years ago. Nonetheless, they stimulated each other, and used solutions developed by other teams.

Rudi Lindner appeared later than the here described period, but he was the one who put the Eppler-Nägele designs into series production. Very often, Prof. Dr. Richard Eppler is called the father of the FS 24 Phoenix, although he strongly refuses this, but unless one calls Hermann Nägele the mother, with the additional side-question, who would have had to bear more during the birth of the Phoenix?

The overall common ground in this pioneering work could be recognized as in the numerous interconnections between the individual work in fiber-reinforced plastics of Ursula and Eugen Hänle and the two brothers Wolfgang and Prof. Dr. Ulrich Hütter. The cooperation at the wind energy systems in the Algaier factory in Uhingen never could bury the longing for sailplanes. Eugen Hänle built some Hütter H 17 on his own time and this brought him together with his Ursula. In spite of the prohibition after the war, Wolfgang Hütter never stopped designing small slim gliders. His wooden shell construction H 30 commenced building not only in Germany, but also in Argentina. The rising plastic made the wood obsolete very quickly, but the shell construction with the new, thin, wonder-fibers stuck together with plastics would finally prove the potential in performance as well as the technology lead that Wolfgang Hütter had acquired for himself in the years since the early forties. The creativity of his brother Ulrich pushed him forward to new perfections, from the turbine powered H 30 TS to the still well-loved and rare open Libelle, the Glasflugel H 301 Libelle, which was put into series production by Eugen Hänle. Eugen Hänle's brilliant mastery of the characteristics, challenges and potentials of this new material set standards for generations of emulating sailplane designers.

This first pioneering age in plastic sailplanes is now 30 to 45 years in the past. With the 1995 OSTIV prize, this worldwide association for the encouragement of the techniques and sciences of soaring, which proved able to overcome the iron curtain in former times, set up a reminding memorial for these seven human beings, who really rendered outstanding services to soaring.

Today's soaring world continues to mourn the memory of three of the seven who aweren't alive to receive their award: Eugen Hänle (September 21, 1975), Wolfgang Hütter (April 3, 1990) and Prof. Dr. Ing. Ulrich Hütter (August 12, 1990). At the same time, the common tribute was enjoyed together with the surviving four, Prof. Dr. Ing. Richard Eppler, Mrs. Ursula Hänle, Rudi Lindner and Hermann Nägele. Our very best congratulations!