

## Press Release

Vienna, 20 August 2020

# YEARBOOK FOR THE ALPBACH TECHNOLOGY TALKS 2020 - FOCUS ON COMPLEXITY

How we can and should properly deal with the growing complexity of the world

The yearbook **DISCUSSING TECHNOLOGY** is published on the occasion of the Alpbach Technology Talks and this year's edition, completely in line with the framework theme of the European Forum Alpbach "Fundamentals", focuses on "Complexity". Contributions by Hannes Androsch, Stefan Thurner, Helga Nowotny, Gerald Bast and selected topics from the fields of Biology & Health, Climate, Urbanisation & Mobility, Economy & Automation, Social Systems, Human Behaviour and Artistic Positions provide an up-to-date overview of the topic of "Complexity" and at the same time represent the scientific prelude to the Alpbach Technology Talks.

Many people perceive the world as increasingly complex and confusing. "Many things that seemed self-evident to us in the past no longer apply. Fundamental principles of our life and economy have been shaken," says Hannes Androsch, Chairman of the Steering Committee of the Alpbach Technology Talks and co-editor of the Alpbach Technology Talks Yearbook 2020 **DISCUSSING TECHNOLOGY**. Androsch continues: "The Corona pandemic has exposed and further exacerbated a number of weaknesses in today's social and economic system. It is now becoming clearer than ever that we are in a deep systemic crisis in which many crisis phenomena overlap and influence each other". Specifically, Hannes Androsch mentions environmental and climate issues, economic problems (such as stagnation, widespread poverty, and inequality) to demographic imbalances, migration, and difficulties in adapting to digitalisation.

### Focus on complexity

Under the general theme of complexity, the book presents new perspectives and approaches to better understand and manage complex systems. "In addition to an insight into the methods and problems of the new science of complexity research, the book traces how we can deal with increasing complexity in numerous subject areas," summarises science journalist Martin Kugler, who edited the book.

### Interviews and expert opinions

These specialised chapters are supplemented by artistic positions on the subject of complexity - in the form of works by the Viennese artist Judith Fegerl - as well as an interview with the Rector of the University of Applied Arts Vienna, Gerald Bast. "Today's complex problems can no longer be solved from the perspective of a single discipline," says Gerald Bast. He is convinced that artistic methods offer an opportunity that can complement conventional scientific methods. Artists are trained to deal with uncertainty and ambiguity, to step out of entrenched thought structures and to seek the new. Using this knowledge is therefore the order of the day. This year, Gerald Bast will be the guest speaker at the ARTTEC cultural programme for the Alpbach Technology Talks.

The yearbook also includes interviews with the doyenne of Austrian science research, Helga Nowotny - who argues that the new methods of complexity research should increasingly be used to ask questions about the future and thus be better prepared for uncertainty - and with the complexity researcher Stefan Thurner, professor at the Medical University of Vienna and head of the Complexity Science Hub Vienna.

### **Hen-and-egg problem with complex systems**

"There is often a chicken-and-egg problem with complex systems: you generally cannot simply state which change is the cause and which is the effect," Stefan Thurner explains. A central research task is to develop methods with which the properties and manifold relationships in complex systems can be described and analysed - in order to then be able to recreate them in computer models. Such methods are currently also providing valuable services in the wake of the Corona crisis. Thurner was part of the Ministry of Health's forecasting consortium: together with his team, he created an epidemiological model for short-term forecasting of the spread of the virus - and is also dealing with the consequences of the crisis and ways out of it.

### **With "Fundamentals", complexity must be thought through as well**

It is precisely these questions that will play a major role in this year's Alpbach Technology Talks, which will take place from 27 to 29 August as part of the Forum Alpbach. "The framework theme of the European Forum Alpbach is Fundamentals. With Fundamentals, complexity and thus complexity research must be considered. The AIT Austrian Institute of Technology was therefore a founding member of the Complexity Science Hub Vienna," explains Wolfgang Knoll, Scientific Director of the AIT Austrian Institute of Technology, which is organising the Technology Talks for the 37th time this year together with ORF Radio Ö1.

### **Alpbach Technology Talks go digital**

The Technology Talks are one of the largest symposia in the Austrian RTI scene and this year will be held digitally in hybrid form due to corona conditions: The top-class plenary and breakout sessions will be produced live in Alpbach and streamed. The participation fee for all talks of the European Forum Alpbach including the technology talks is a one-time fee of 90 euros. "This is to enable as many interested people as possible to participate in the events virtually," says Knoll.

### **Yearbook Discussing Technology**

The yearbook DISCUSSING TECHNOLOGY is published annually on the occasion of the Alpbach Technology Talks and is edited by Hannes Androsch, Chairman of the Supervisory Board of the AIT Head of Steering Committee of the Alpbach Technology Talks, and the two Managing Directors of the AIT, Wolfgang Knoll and Anton Plimon. The Yearbook is distributed digitally to all participants and interested parties of the Alpbach Technology Talks and can be purchased as a hardcover edition from Verlag Holzhausen.

The yearbook was edited by science journalist Martin Kugler and realised by the agency art:phalanx.

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### About the Alpbach Technology Talks 2020

The Alpbach Technology Talks will take place from 27 to 29 August 2020 as part of the European Forum Alpbach corona in a new, innovative format. They will be organised by the AIT Austrian Institute of Technology, Austria's largest research-and-technology organisation, and ORF Radio Ö1. The scientific partner of the Alpbach Technology Talks 2020 is the Helmholtz Association of German Research Centres, the industrial partner is the Federation of Austrian Industries (IV). The event is supported by the Austrian Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK), the Federal Ministry for Digitisation and Business Location (BMDW) and the Federal Ministry of Education, Science and Research (BMBWF).

This year, the Forum Alpbach and thus also the Technology Talks will take place digitally. The top-class plenary and breakout sessions will be produced live in Alpbach and in the studio of the APA Press Centre and broadcast via stream. The Hop-in tool will be used for the online conference. The participation fee for all talks of the European Forum Alpbach including the Technology Talks is a one-time fee of 90 euros.

The programme of the Alpbach Technology Talks can be found here:

<https://www.ait.ac.at/efatec20>

Tickets can be purchased here: <https://2020.alpbach.org/>

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