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Medical Robotics – Where do We Stand Today, and Where are We Headed?

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Abstract: During the last three decades, medical robotics has increasingly transformed healthcare by enhancing precision, reducing invasiveness, and improving patient outcomes. From simple motorized camera holders to sophisticated multi-arm surgical assistants, robotic technologies are increasingly integrated into modern medical practice. This presentation gives an overview on the current state of medical robotics, highlighting key advances, major clinical applications, and ongoing challenges such as cost, regulation, and workflow integration. It also discusses emerging trends driven by technologies such as artificial intelligence and soft robotics. Finally, the presentation discusses the potential obstacles to translate promising concepts to successful products.

Biography:

Gernot Kronreif received a cum-laude doctors degree in Technical Sciences with a specialization in Robotics in 1995 at the Technical University Vienna. He held various positions focusing on project management, computer simulation, and robotics, including Head of the business unit for Advanced Service Robotics at the ARC Seibersdorf Research GmbH and later at the PROFACTOR Research and Solutions GmbH. Since 2010, Gernot Kronreif has been the Scientific Director at the ACMIT GmbH, where he is responsible for translational R&D for medical technology. He has more than 250 papers and presentations at scientific conferences and is a proud holder of the Honorary Professor title at Óbuda University, Budapest, Hungary.

