SPACE HUB®
YORKSHIRE

Sixteenth International Conference on Fundamentals and Industrial Applications of HIPIMS 2026

Event Summary

15-16 Jun 2025,

Cutlers' Hall, Sheffield

S1 1HG

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Introduction

HIPIMS International Conference 2026

The Sixteenth International Conference on Fundamentals and Industrial Applications of HIPIMS 2026 brings together the global surface engineering community to share the latest advances in High Power Impulse Magnetron Sputtering, plasma coating technologies, and advanced surface treatments. Held from 15–18 June 2026 at Cutlers' Hall in Sheffield, UK, the conference provides a focused forum for researchers, engineers, technologists, and industrial users to exchange knowledge across both fundamental science and real-world applications.

Building on the success of previous HIPIMS conferences, the 2026 edition will highlight developments in plasma generation, discharge physics, thin film growth, coating performance, reactive and non-reactive HIPIMS processes, industrial-scale implementation, and emerging opportunities in advanced manufacturing. Through technical presentations, poster sessions, tutorial courses, an industry exhibition, and expert discussion, HIPIMS 2026 aims to strengthen collaboration between academia and industry and support the continued development of next-generation surface engineering technologies.

As HIPIMS continues to mature from a powerful research platform into an increasingly important industrial coating technology, this conference offers an important opportunity to review progress, address technical challenges, and explore new applications across sectors where high-performance surfaces are essential.

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Schedule

Sixteenth International Conference on HIPIMS
17–18 June 2026
Cutlers' Hall, Church Street, Sheffield, S1 1HG, United Kingdom

Day One — Wednesday 17 June 2026

Time	Topic
7:00–8:00	Registration
8:00–8:30	Welcome Address
8:30–8:50	Protective Ti Coatings on BPP for Proton Exchange Water Electrolysis Prepared by HIPIMS Technology
8:50–9:10	Fantastic Coatings and Where to Find Them: A HIPIMS Story
9:10–9:30	Combinatorial Sampling of CrAlN HIPIMS Coatings
9:30–10:00	Coffee Break, Exhibition and Poster Session
10:00–10:20	HIPIMS: Advanced Coating Technology from an Industrial Manufacturing Perspective
10:20–10:40	Using W+ Ion Bombardment to Reduce Energy Consumption During TiAlWN Coating Deposition Under Industrial Conditions
10:40–11:00	Time-Dependent Ionisation Region Modelling of Ti/Ar HiPIMS and e-HiPIMS Discharges
11:00–11:30	Coffee Break, Exhibition and Poster Session
11:30–11:50	Time Resolved Optical Emission Spectroscopy of e-HiPIMS Discharges
11:50–12:10	Time Resolved Investigations on Ion Fraction, Ionization Degree, and Plasma Composition within a HIPIMS Pulse
12:10–12:30	Hybrid Cleaning of Components Prior to High-Tech Coating
12:30–12:40	Conference Photograph
12:40–13:30	Lunch Break, Exhibition and Poster Session
13:30–13:50	HIPIMS Coatings for Micro Tools
13:50–14:10	High-Power Pulsed Bipolar Dual-Magnetron Sputtering Technology Using Cylindrical Cathodes for Deposition of Advanced Coatings in Industrial Applications
14:10–14:30	Effect of Carbon Content on the Structural, Mechanical and Corrosion Properties of TiC Films Deposited Using a HiPIMS Discharge
14:30–15:00	Coffee Break, Exhibition and Poster Session
15:00–15:20	HIPIMS Growth of Ordered Magnetic Alloys: Opportunities and Challenges
15:20–15:40	Copper Plasma Characteristics and Power-Supply Parameter Effects in HIPIMS for Through-Glass Via Metallization
15:40–16:00	Growth-Controlled Photochromism in Yttrium Oxyhydride Thin Films Deposited by HiPIMS and Pulsed-DC Magnetron Sputtering
16:00–16:30	Coffee Break, Exhibition and Poster Session
16:30–16:50	Superposition of HIPIMS with RF on a Single Magnetron: Generation of High Ion Energies
16:50–17:10	RF-Assisted HIPIMS Operation on a Single Target: Discharge Stabilization and Ionization Behavior in Arcing-Prone Processes
17:10–17:30	Activities and Opportunities in the UK Space Sector
17:40–18:15	Quo Vadis Panel Discussion: Surface Engineering for Advanced Manufacturing
18:15	End of First Day

Day Two — Thursday 18 June 2026

Time	Topic
09:00–09:20	Antimicrobial Activity of Superhard Nanostructured and Plasmonically Active TiN-Based Coatings
09:20–09:40	Room-Temperature Fabrication of TiN Plasmonic Nanoarrays on Flexible Substrates via HIPIMS
09:40–10:00	HIPIMS for Robust Manufacturable Antimicrobial Surfaces Based on Plasmonic Photocatalytic Nanoscale Multilayer Coatings
10:00–10:30	Coffee Break, Exhibition and Poster Session
10:30–10:50	Tribological Performance of Nano-Patterned Nanoscale Multilayer TiN/NbN Coatings Prepared by HIPIMS
10:50–11:10	Titanium Nitride Deposition by Constant-Current Regulated HIPIMS for Plasmonic Applications: Influence of the Discharge Composition and Pressure
11:10–11:30	The Role of Cleaning Prior to High-Performance Coating: Choosing the Right Cleaning Chemistry
11:30	Professor Papken Eh. Hovsepian Award Announcement
11:50	Closing Remarks
12:00–13:30	Lunch Break, Exhibition and Poster Session

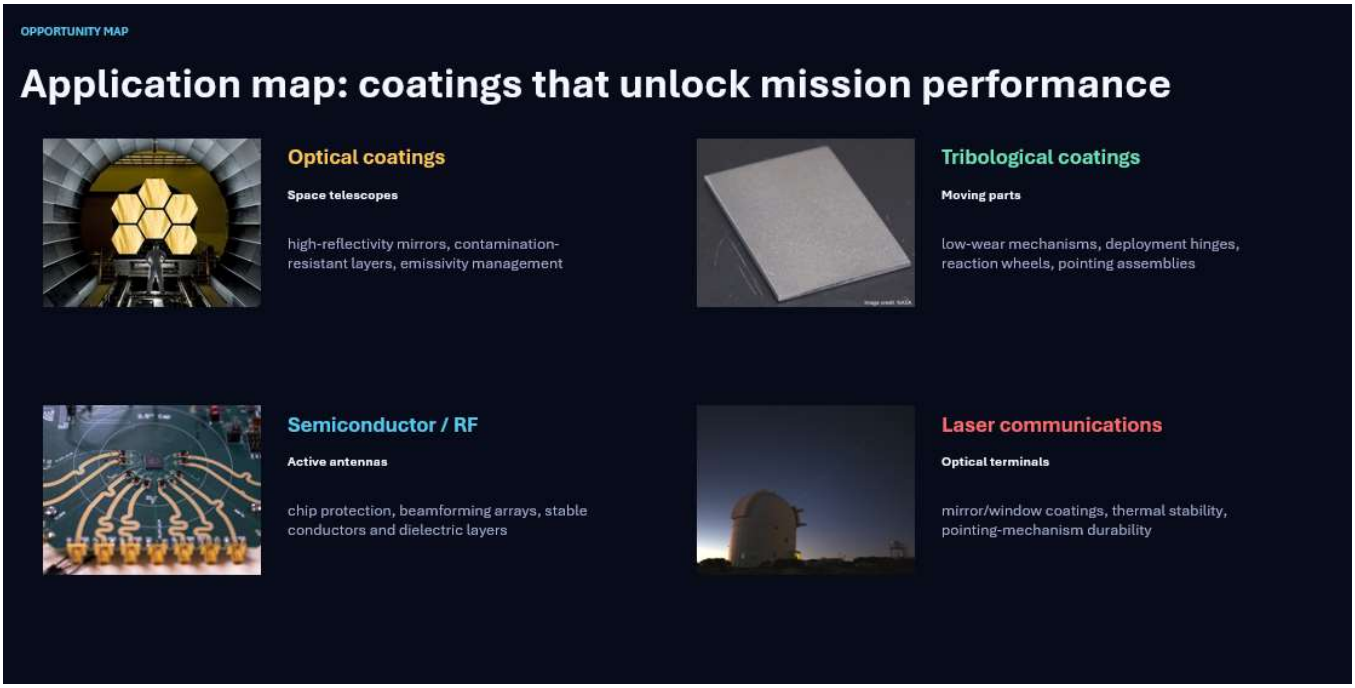
Attendance

The Sixteenth International Conference on Fundamentals and Industrial Applications of HIPIMS 2026 provided a valuable platform to present the potential role of HIPIMS coatings in supporting future space missions.

The presentation highlighted how HIPIMS technology could contribute to key space-sector applications, including optical coatings, solid lubricants, thermal management systems, and radiation-hardened semiconductors. It helped raise awareness of space-sector requirements within the HIPIMS research and industrial community, while identifying opportunities for future collaboration between universities, coating specialists, and space companies.

The event supported knowledge exchange between the advanced coatings and space sectors and helped strengthen links between academic research, industrial capability, and future mission needs.

Space Hub Yorkshire contributed to the event by providing an industry-facing space-sector perspective on the potential application of HIPIMS coatings within future space missions. The presentation positioned HIPIMS as a cross-cutting enabling technology for space-grade surfaces, electronics protection, optical and RF systems, and mission-critical hardware operating in extreme environments. Space Hub Yorkshire highlighted opportunities for HIPIMS in optical coatings, tribological coatings, semiconductor and RF applications, laser communications, thermal management, and radiation-resilient systems. This helped connect the HIPIMS research and industrial community with emerging UK space-sector needs, raising awareness of how advanced coating technologies can support mission reliability, supply-chain capability, and future collaboration between universities, coating specialists, satellite companies and regional space clusters.



Summary

The Sixteenth International Conference on Fundamentals and Industrial Applications of HIPIMS 2026 provided a valuable platform to explore how advanced coating technologies can support future space-sector needs. Through Space Hub Yorkshire's contribution, the event connected the HIPIMS research and industrial community with emerging opportunities in the UK space sector, particularly in areas such as optical coatings, solid lubricants, thermal management, radiation-resilient electronics, RF systems and laser communications.

The session highlighted that space missions increasingly depend on reliable enabling technologies that can perform in extreme environments, including radiation, vacuum, contamination risk and thermal cycling. HIPIMS was presented as a promising coating approach for improving surface functionality, electronics protection, mechanical reliability and mission-critical hardware performance.

The event supported knowledge exchange between academia, industry and the space sector, helping to raise awareness of how HIPIMS capabilities could contribute to future mission supply chains, demonstrator development, qualification testing and collaboration with satellite companies, universities and regional space clusters.

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