



*Join us for our annual gathering at the Newbury Racecourse.  
This meeting is open to all IEEE/IET members and guests! There is no charge to attend, but space is limited and will be filled on a first-come, first-served basis. See registration details below.*

***Radio Equipment and Cyber Security: How Connected Technologies  
are Shaping the Compliance Journey  
&  
Specific EMC Requirements for Semiconductor Manufacturing  
Environment and Review of SEMI E33 and E176 Standards***

**Dubai Duty Free Grandstand at Newbury Racecourse in Newbury**

The Grandstand, Newbury Racecourse, Newbury, Berkshire, RG14 7NZ

22nd of May, 2024

[Click here for google map](#)

<b>TIME</b>	<b>TOPIC</b>
15:30	Refreshments
16:00	Welcome: Min Zhang, IEEE UK/Ireland EMC Chapter Chair
16:05	Alex Toohie "Radio Equipment and Cyber Security: How Connected Technologies are Shaping the Compliance Journey"
16:45	Q&A
16:50	Vladimir Kraz "Specific EMC Requirements for Semiconductor Manufacturing Environment and Review of SEMI E33 and E176 Standards"
17:20	Q&A

***See the complete technical program information below, including the presentation abstracts and the speaker bios!***

**Register: Please register [here](#) by Monday, May 20th, 2024 to ensure your seat!**

OR, copy and paste this URL into your browser: <https://events.vtools.ieee.org/m/416512>

**Contact:** Dr. Min Zhang, Mach One Design Ltd, Member, IEEE EMC Society  
cell +44 (0)7969624296, email: [min.zhang@mach1design.co.uk](mailto:min.zhang@mach1design.co.uk)

***Thank You to our Meeting Sponsor!***



## **TECHNICAL PROGRAM**

**Title: Radio Equipment and Cyber Security: How Connected Technologies are Shaping the Compliance Journey**

**Abstract:** Alex Toohie's presentation (40 minutes) covers the following:

- Overview of the differences between EMC for RED and EMC for EMCD, emphasizing how the inclusion of a radio in a product alters the required EMC assessment.
- Explanation of the new cyber security requirements introduced by RED, including their effective date, the scope of covered products, methods for manufacturers to demonstrate compliance, and the necessity and rationale for involving a notified body.
- Discussion of the UK-specific cyber security regulations outlined in the PSTI Act, highlighting their relationship with RED, the categories of products they encompass (which can be complex), and the additional administrative obligations placed on manufacturers.
- Presentation of an example declaration covering both RED and PSTI (where applicable) requirements, offering clarity on how manufacturers can address both sets of regulations.
- Provision of a straightforward decision tree for manufacturers to determine the relevant set of requirements for their specific products, streamlining the compliance process.

**Title: Specific EMC Requirements for Semiconductor Manufacturing Environment and Review of SEMI E33 and E176 Standards**

Abstract: Semiconductor manufacturing presents unique requirements to electromagnetic interference that may not necessarily fall under "generic" EMC approach. SEMI ([www.semi.org](http://www.semi.org)), an international consortium of semiconductor manufacturing companies, has set up a body of standards specific for semiconductor industry. Among them are two EMC/EMI Standards, both augmenting existing EMC regulations, and breaking new ground controlling actual EMI environment in semiconductor manufacturing process, not just compliance of individual equipment. This paper provides an overview of these documents, exposing EMC specialists to the needs of a rapidly growing industry. The paper is presented by Vladimir Kraz, a leader of EMC Standards' Task Force at SEMI Standards.

## SPEAKER BIOGRAPHIES



**Alexander Toohie** has a background in physics, having studied for his Master's at the University of Leicester, with a focus on remote sensing technologies for orbital missions, graduating in 2014 with First Class Honours. Alex spent 8 years working within the Connected Technologies division of the testing laboratory Element, in both applications engineering and business development roles, planning the testing and certification paths for complex and varied radio equipment. Two years ago Alex joined Texecom, an international leader in the design and manufacture of intruder and fire alarm systems, leading their compliance team and ensuring their products meet regulatory requirements under UKCA and CE marking schemes (including CPR, EMCD, RED, ATEXD, etc.), as well as additional regulatory and non-regulatory cyber security requirements.



Vladimir Kraz, a founder and a president of OnFILTER, has over 40 years of experience in electronics. During his career Vladimir worked on design of state-of-the-art equipment for wireless and wired communication, medical, industrial control, audio, and other industries, as well as ESD, EMI and EMC instrumentation. Prior to starting OnFILTER, Vladimir was Director of Instrumentation at 3M in charge of design of ESD and EMI-related tools. He joined 3M when the company he started, Credence Technologies, was acquired by 3M. Vladimir wrote numerous articles for technical publications, presented papers at EOS/ESD and IEEE EMC Symposiums, and taught classes and conducted seminars about ESD, EMI and EOS around the world.

Vladimir is a member of several technical associations. He is a leader of an EMC Task Force at SEMI Standards, leading the development of EMC/EMI Standards for semiconductor industry, and a co-chair of SEMI Standards' Metrics Committee. SEMI is a worldwide consortium of semiconductor manufacturers. Vladimir is a member of EOS/ESD Association' Standards, and a Life member of IEEE, participating in several societies, including EMC, industrial electronics, power electronics and others. He has 24 issued patents with more pending. Vladimir holds MSME and MSEE degrees. He resides with his family in Santa Cruz, California.