## Second Century Friedrichshafen Recap

While many of you were enjoying ARRL Field Day over the June 21 – 23 weekend, I attended HAM RADIO 2019 in Friedrichshafen, Germany as part of an ARRL delegation.

HAM RADIO is one of the largest Amateur Radio exhibitions in the world. This year, HAM RADIO attracted 184 exhibitors and associations and some 14,300 visitors from more than 50 countries. HAM RADIO also boasts having the largest ham radio flea market in Europe.

As has become common at larger events, HAM RADIO has a lecture program. The 2019 lecture program included a talk that I found particularly interesting — "KiwiSDR as a new GNU Radio Source" by Christoph Mayer, DL1CH (https://www.youtube.com/watch?v=LpFoM\_ IBgxg&feature=youtu.be)

Two things about Christoph's talk particularly appealed to me. First, it was the blending of modern, low-cost opensource computer hardware and software with ham radio. This is today's version of homebrewing and hacking. This is the kind of thing that drew me into ham radio and, ultimately, a career in engineering. This technology is accessible to virtually everyone, everywhere.

And second, Christoph's talk described a network of hams cooperating, both in sharing open-source hardware designs and software, and then making the constructed radios available via the internet for a common purpose — namely, these radios can be used to geolocate a radio transmitter anywhere in the world using Time Difference of Arrival (TDoA). Currently, there are about 400 stations online. In real time, Christoph selected three stations and geolocated an overthe-horizon radar transmitter in Cyprus.

With exhibitors, a flea market, and lectures/forums, other than the size, HAM RADIO sounds like a typical US hamfest. But I saw differences!

While the attendees were predominantly middle-aged men, one of the first things that I noticed was there were more young people than at US hamfests. There was, in fact, a large contingent representing Youngsters On The Air (YOTA), an initiative of the International Amateur Radio Union (IARU) Region 1 (Europe, Africa, and the Middle East). During HAM RADIO, young hams carried the YOTA flag to each of the booths organized by the IARU member-societies.

The other thing that I noticed was the IARU membersocieties themselves. At each one of these country-centric booths, hams proudly shared aspects of their local culture.

Often this culture included food and drink — for example, cheese, ham, and wine from Spain — but they shared their culture in other ways. QSL cards were a part of it, and there was literally a wall of QSL cards posted by many attendees. It was interesting to see how people represent themselves. It reminded me that one of the joys I have in DXing is not checking off a country on a list, but in learning about people. Ham radio is international travel over the airwaves.

There was also an informal meeting for representatives of IARU member-societies, and a smaller meeting between IARU Region 1 President Don Beattie, G3BJ, and the ARRL delegation. We had substantial discussions about potential harmful emissions from wireless power transmission (WPT) systems — both low-power generic WPT and WPT for electric vehicles. Don reported on tests carried out on small WPT devices and requested ARRL's help in researching high-power vehicle charging systems. I am pleased to report we are working on that. This is a clear case where we can all help each other and Amateur Radio.

There was also a discussion of a French proposal to allocate 144 – 146 MHz to the Aeronautical Service on a primary basis, essentially sharing it with Amateur Radio. The band is currently allocated to Amateur Radio on a primary basis around the world. This proposal should serve as a reminder that defense of the amateur spectrum does not just happen. IARU and its member-societies, including ARRL, constantly work at defending the amateur allocations.

I encourage your comments to me at ceo@arrl.org.

Howard & my WBLITX

## Where to Meet WB2ITX

August 31 – September 1 — JARL Ham Fair Tokyo, Japan https://www.jarl.org/English/4\_Library/ A-4-6\_ham-fair/ham-fair.htm

September 6 – 7 — Northeast HamXposition, Boxborough, MA https://hamxposition.org/ September 27 – 28 — Central Division Convention, HRO Superfest, Milwaukee, WI https://www.w9rh.org