

President's Remarks

RNT Foundation Annual Meeting

8 April 2015

People will often laugh if you tell them you can see the future. But my uncle has made a fortune in real estate and the stock market because he can do just that.

The clip about GPS spoofing we saw earlier was from "Tomorrow Never Dies," a James Bond film that was released in 1997. And people were looking into the future and worrying about GPS vulnerability much before that. This has certainly been the case in the last 15 years.

Fast forward from James Bond in 1997 to 2001 and a Volpe Transportation Systems Center report. It looks into the future and sees bad things if we don't diversify and make American PNT more resilient. Forward to 2004 and the President predicts really bad things if GPS goes out. He issues a National Presidential Security Directive that says GPS as critical to our national security and economic wellbeing. The Directive tells DOT and DHS to procure a backup system to ensure PNT services are available when GPS isn't. Forward again to 2008 and the US inter-department PNT Executive Committee concludes that, (a) the President was right, and (b) the nation needs to upgrade Loran-C to eLoran to be the complementary and backup service for GPS the president mandated. DHS even announces that it will be responsible for upgrading and operating the system. – Only seven years from a government center of excellence identifying a significant threat to the nation, to a decision on the solution. Amazing! Government process at its best.

But when we go forward again in time to 2009 we find, in spite of the advice of every senior official and scientist who had seriously looked at the issue, someone in government (who was not the new president), decides it's not important to look into the future. After all, as far as they can tell, nothing bad has happened yet. They take advantage of the change in administrations and, instead of the old Loran system being upgraded, in 2010 it is terminated.

Since 2010 numerous academic studies, the government's PNT Advisory Board, and numerous government agencies have continued looking into the future, and have been saying that GPS vulnerability is and will be a problem.

And so it has become. The FBI tells us that GPS jammers are a favorite tool of organized crime. Individual citizens with "privacy devices" are disrupting everything from aircraft landing systems to cell phone towers and cranes at container ports. Russia and North Korea jam at will, and many nations have the ability to do so. DARPA has said that military use of GPS has evolved from a strategic advantage to a vulnerability.

The reason we are here tonight, and that the RNT Foundation exists, is not to ensure the US builds eLoran. As an organization we are technology agnostic and are in favor of any and all policy and technical solutions that will make the nation safer. If there are faster, cheaper, more

effective ways to make America safer, we are all for them. But the problem is here now and getting worse by the day. So our nation needs to get on with addressing it.

Since the RNT Foundation was established in August of 2013, we have been able to help this process along through our educational mission and outreach. We have published articles and papers, been in the media, and worked with both the administration and Congress. We were very glad to see in December the President sign into law provisions that prevented further destruction of the old Loran infrastructure until GPS vulnerability was greatly mitigated. We are also heartened at Congress' concern and interest as expressed in the recently introduced bipartisan National Positioning, Navigation, and Timing (PNT) Resilience and Security Act of 2015.

And, of course it is good to see the administration beginning to consider the issue as well. In January the Army, as you know, issued an RFI about eLoran receivers. DHS has announced resumption of a CRADA that will put an experimental eLoran signal on air. And, of course, there has recently been a Federal Register Notice requesting comment as to whether people would use eLoran if the government were to build it.

This seeking public comment, though, will be a challenging effort and may be ill fated from the start. I am reminded Henry Ford's alleged assertion that "If I had asked people what they wanted, they would have said 'faster horses.'" I wonder if, before building GPS, there was a federal register notice asking if people would use it. And if so, did folks say that they would include the GPS signal as a critical part of nearly every technology in the country making it a single point of failure for much of America? I know we all wish the administration well with getting public comment. Let's hope that this effort doesn't end up as another part of Chairman Hunter's endless circle loop of studies that he mentioned in the video from the hearing.

Fortunately, all of us here can help prevent that.

In 1939 Albert Einstein had special knowledge about atomic energy that he thought was important to the security of the free world. He believed he had a duty to share it, wrote a letter to President Roosevelt, and the world was changed forever.

While none of us may have the stature of Einstein, we are all blessed to be well educated and well regarded citizens of free societies. Our elected leaders are compelled to take notice of us. That makes us powerful and important people.

And, while we may not be in a world war, or at least not a declared one, the people in this room all have important special knowledge about our nation's security that we have a duty to share.

We know that, until there are multiple, resilient sources of PNT, and they have been adopted by all our critical transportation, IT, communications and other infrastructure, our nation will be at unacceptable risk. We are painfully aware that since 2010 our PNT safety and security has gotten much worse, when it should have improved. We know that space is not enough – we



also need down-to-earth solutions. GPS-Space needs its GPS-Earth component (probably in the form of eLoran) so that we have a healthy, balanced and resilient PNT architecture.

This is where I normally thank you for your support to the foundation, ask for your continued support, help getting new members, increased financial contributions, and so forth. Which I now officially do. Your continued and increased support will help our education and outreach efforts tremendously.

More importantly though, I ask you to take from this place with you a commitment to share your special knowledge about the need for resilient PNT (along with the reminder cards at your place settings). Share what you know with government leaders by responding to the Federal Register Notice. Tell your legislators what you think about the National Positioning, Navigation, and Timing (PNT) Resilience and Security Act of 2015. Our website has convenient links to help you do that. And tell everyone one you know, both citizen and federal official alike, how important this is.

Prior to 9/11 there were 112 major airliner hijackings, but we never really did much about aviation security. We can see the future and we can change it if we are willing. Help America change its future before we have a technology 9/11 and GPS disruption does immeasurably more damage to our nation than four airliners ever could.

Thank you for all you have done, keep up the good work.