

ARTES studies related to smaller satellites (including Cubesats)



Advanced Research in Telecommunications Systems → Program run by ESA Telecommunications

So far, main focus on large, heavy, satellites with long programs

Only recently some small-satellite related activities.....



But more coming....

1. Commercial telecommunication missions with small satellites – 200 k€
2. Mission study for future maritime VHF Data Exchange – 200 k€
3. In-orbit validation of VHF waveform with small satellite – 700 k€

1 ARTES study on commercial telecommunication missions with small satellites



We will invite – in 1Q 2014 - tenders for a 200 k€ study (fully funded) to:

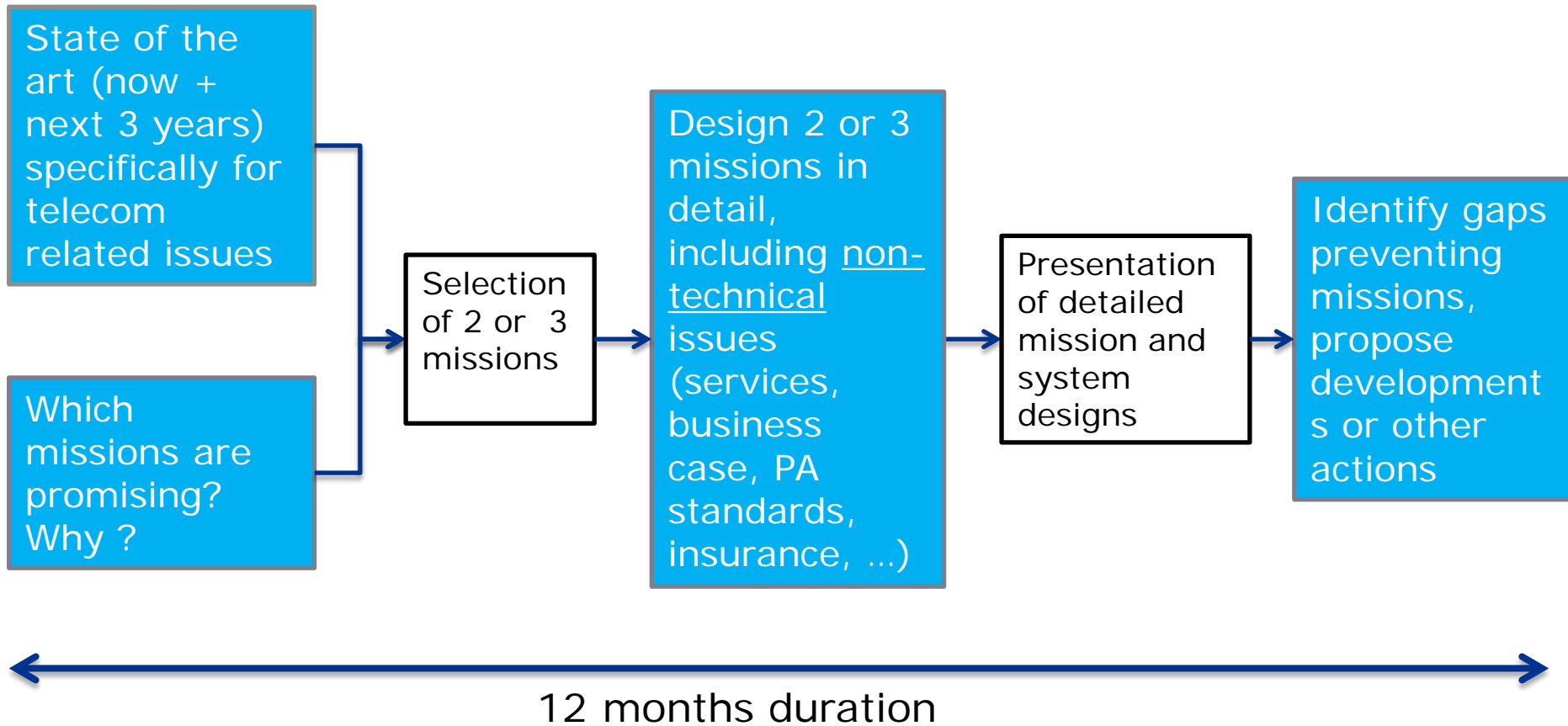
Identify which commercial telecom missions can be supported by nano-satellites, and/or identify the technology (or other) gaps that prevent this



Scope considerations:

- “nano-satellites”: 1U...12U, compatible with certain adapters/dispensers
- “telecom missions”: to be interpreted in the broadest sense i.e. M2M, broadband, narrowband, regulatory “services”, spectrum sensing,..... → as long as they bring in revenue

Draft study logic



2

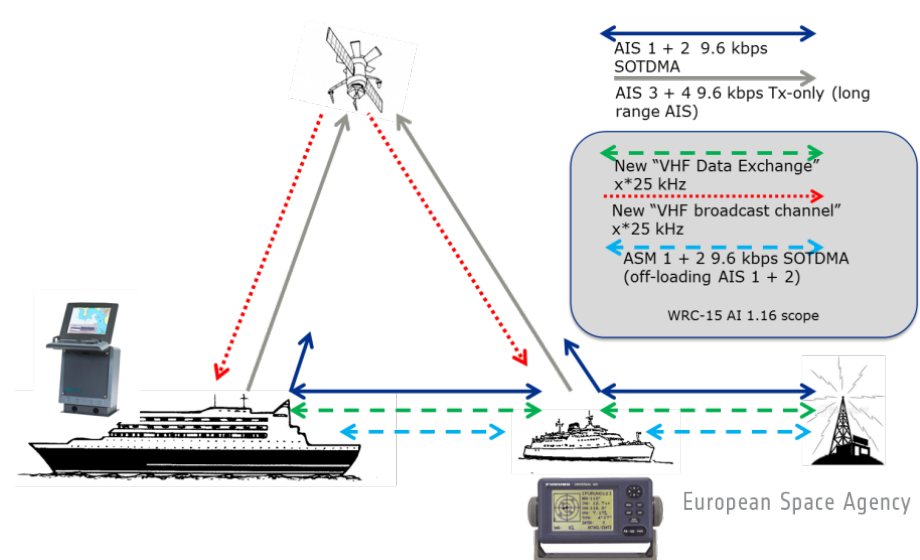
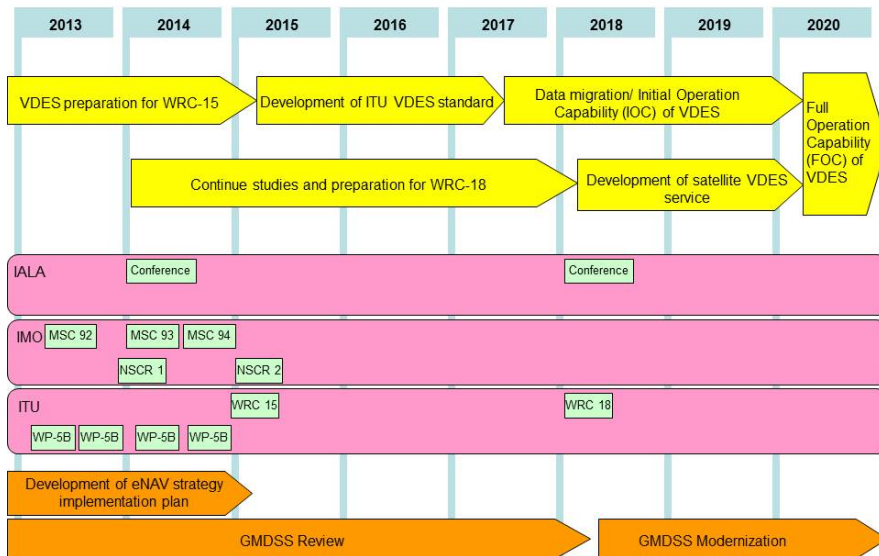
Mission study for a future maritime VHF satellite datalink



International maritime community is looking at a minimum data exchange capability for vessels

New satellite radio spectrum might become available

Mission could likely be implemented with **smaller satellites** → mission study will be tendered in 1Q 2014 for 200 k€



3

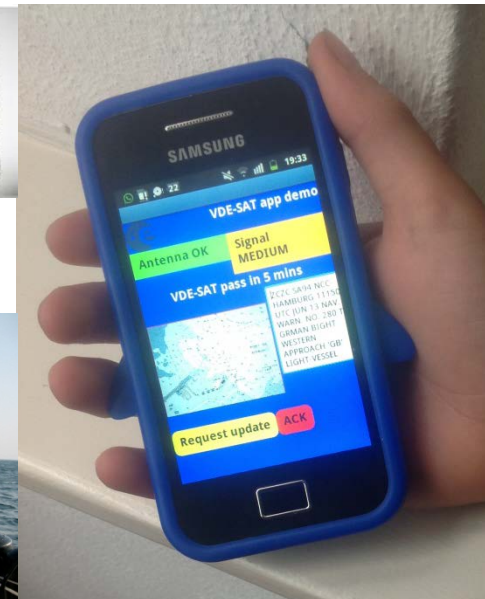
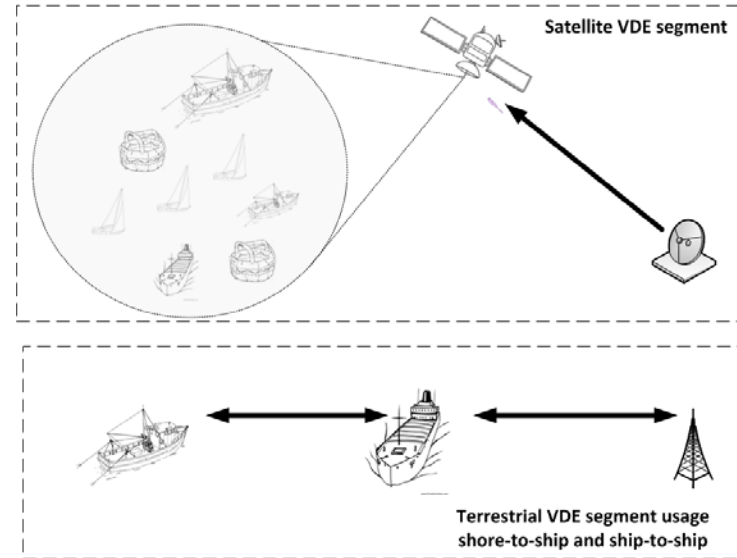
In-orbit validation of a VHF waveform for maritime applications



In maritime community, various test beds are being put together for e-Navigation and future maritime communications

We would like to an in-orbit validation of the satellite component based on SDR-enabled Cubesat

Based on CubeSat/smallsat, to be tendered in 3Q 2014, for 700 k€



ARTES and contact



ESA offers support through its Advanced Research in Telecommunications Systems (ARTES) Products and Technologies funding programme to keep the European and Canadian satcom industry on the cutting edge of innovation.



Frank.Zeppenfeldt@esa.int
T: +31 71 5654376
M: +31 6 5206 2135

European Space Agency - Satellite Telecommunications – Future Programs
<http://telecom.esa.int/>
ESA/ESTEC (European Space & Technology Centre)
Keplerlaan 1 Postbus 299
2200 AG Noordwijk The Netherlands

