



NorDig T report back from Excom

NorDig Excom meeting 26th May 2015 Stockholm, Sweden

Marked as “Excom” in blue text is outcome from this Excom meeting (decision, comments, tasks, feedback etc)

NorDig T (Per Tullstedt) extra report back from NorDig Excom meeting, mainly NorDig T related issues, not the official NorDig Excom report (which will come from our Excom secretary)

NorDig Excom Agenda 26th May 2015:

Place: Arlanda Hotel, Arlanda in Stockholm, Time: 10:00 to approx. 16:00

1. Agenda and report from previous meeting
2. Organizational matters
 - 2.1. Change of NorDig charter (enclosed)
 - 2.2. Membership situation
 - 2.3. Contract with external consultant
 - 2.4. Finance matters
3. Report from NorDig/T
 - 3.1. Specification and work status
 - 3.2. Special issues
4. Report from Industry
 - 4.1. Report from Nordic Product Manager meeting
 - 4.2. Report from industry members
5. Invited presentation:
 - WRC 15, Amela Hatbovic-Sevic, PTS
 - Presentation about EBU and 700 MHz – Lis Grete Möller, DR
 - Presentation about Nkom Report on 700 MHz– Trude Malterud, NTV

Excom – next meeting (29th Sep 2015) NorDig T is asked to present around (future) Accessibility (or MC Audio)

6. Reports from members, DVB and other organizations
7. Any other business
8. Date and place for the meetings in 2016

Excom – from 2016 only 2 Excom meetings/year (today 3 per year), date: 18 Feb 2016 and 29 Sep 2016.



NorDig T report - Overview specification work

NorDig Excom meeting 26th May 2015

Overview NorDig T specification work :

- Rules of Operation
 - v2.0 target: Q4 2015
- Unified IRD specification
 - v2.5.1 has been published July/Aug 2014 (v2.5 and then correction to v2.5.1)
 - **Proposal v2.6 mid 2016 or end 2015**
- Test Plan
 - v2.4 has been published Feb 2014
 - v2.5 planned Q2 2015 (incl test for PVR crids, HbbTV etc)
- HbbTV
 - Test cases (both NorDig and HbbTV test specs), under progress, NRK supervising, Sofia Digital consulting for writing test cases (partly paid by NorDig and partly by NRK+DR) (target Q1.2015)
 - Logo + marketing: no NorDig specific, no other than HbbTV standard
 - DRM: no NorDig DRMs specified for IRDs (NorDig T still monitor and report DRM to Excom)



NorDig T report - Work and subgroups

NorDig Excom meeting 26th May 2015

Overview

NorDig T – *active*

NorDig T subgroups – status

- Video – *dormant*
- Audio – *active* (audio related for IRD, Test Plan and RoO. Working together w Accessibility group)
- Test – *active* (Test Plan)
- RoO – *active* (RoO spec)
- Accessibility – *active* (accessibility related for IRD, Test Plan and RoO)
- PVR/API – *active* (HbbTV testing (cases+setup), API+PVR related for IRD, Test Plan and RoO)
- CA/CI+/Sec – *dormant* (CI+ v1.4)
- (SSU – *closed* after IRD v2.5 work)



NorDig T report - Work and subgroups

NorDig Excom meeting 26th May 2015

Organisation and status

NorDig T – *Per Tullstedt, Teracom*

NorDig T subgroups – status

- Video – *dormant (future maybe HEVC, UHDTV, HDMI 2.x etc)*
- Audio – *Johan Lindroos, SVT, preparing proposals related to audio for IRD, RoO and Test specs*
- Test – *Pasi Toiva, Labwise, drafting NorDig Test Plan*
- RoO – *Des Mac Giolla an Chloig, RTÉNL, drafting RoO spec*
- Accessibility – *Kjell Norberg, NRK, preparing proposals related to accessibility (audio, video, subtitling, menus...) for IRD, RoO and Test specs*
- PVR/API – *Erik Vold, NRK, preparing proposals related to PVR and API (HbbTV) for IRD, RoO and Test specs. Investigations DRM alt, test model/process. Creating complementing HbbTV Test streams*
- CA/CI+/Sec – *dormant (CI+ v1.3, CI+ v1.4)*
- SSU – *dormant*



NorDig T report - Meeting calendar 2014

NorDig Excom meeting 26th May 2015

NorDig T meeting calendar 2015:

- 13th Jan 2015, telco/webinar
Informative: NorDig Excom 27 Jan
- 10th March 2015, telco/webinar
- 13th May 2015, physical (Stockholm, Sweden)
Informative: NorDig Excom 26 May
- 16th June 2015, shorter webinar before summer break
Informative: IBC 10-15 Sept
- 22th Sep 2015, physical (London, UK)
Informative: NorDig Excom 29 Sep
- 27th Oct 2015, telco/webinar
- prel 8th Dec 2015, shorter webinar before X-mas



NorDig T report - RoO

NorDig Excom meeting 26th May 2015

Rules of Operation – status report

- v2.x target: Q4 2015 – on schedule
- Progress
 - Des made a number of drafts
 - Now since 1 April support from our technical secretary Peter Molsted drafting
 - Not easy to have same structure as IRD spec



NorDig T report - Test plan

NorDig Excom meeting 26th May 2015

Test Plan

- v2.5.1 target: Q2 2015
- Still under preparation, (waiting inputs for example for Audio parts etc)



NorDig T report - Accessibility

NorDig Excom meeting 26th May 2015

Accessibility status report

- Questionnaire Supplementary audio (*see details at the end of doc*)
 - Questionnaire made for AD audio + Spoken subtitling
 - Replies from NRK, DR, SVT, YLE, RTE/RTENL
 - Both AD + Spoken Subtitling is widely used over broadcast (AD some and Spoken Subt often)
 - AD + Spoken Subtitling is not yet so much used over broadband (except DR)
 - Broadcast mode differs, some separate TV service, others broadcast mix and others receiver mix
 - Spoken subtitles and Audio description can share the same audio channel because the should never occur at the same time.
 - Spoken subtitles are made automatic, and is cheap to generate. It runs on all programs when first installed.
 - Audio description is a manual task. It is 5-10 times the work of subtitles, and therefore only used on high profile programs.
- Remote control
 - Review/update old text (see separate slide)
 - RC for accessibility settings (if possible collect all accessibility settings: HoH subtitling, AD audio etc)



NorDig T report - API/HbbTV and PVR

NorDig Excom meeting 26th May 2015

HbbTV and PVR - status report

- HbbTV subgroup very active
 - HbbTV test cases maintenance ongoing
 - PVR Lite / TV Recorder – will discuss/review proposal TV man
 - Organisation ID – 500EUR. (Excom decision needed)
 - “All” HbbTV test cases needs to be reference by an organisation and this refers technical to an (DVB) Organisation_ID value, best would be if this could be a NorDig Org.id. NorDig T+API propose that NorDig apply for an Org.id from DVB (not sure that is possible), one time cost of 500 EUR. Otherwise we have to use NRK’s org.id for NorDig developed HbbTV test cases.
- Excom – OK for 500EUR and to try to get NorDig org.id from DVB Office
- New item – monitor Must carry of HbbTV signaling in Finland (maybe collect info from NorDig countries?)



NorDig T report - IRD

NorDig Excom meeting 26th May 2015

NorDig Unified IRD spec

- No major updates or new requirement foreseen, **Proposal v2.6 mid 2016 or end 2015**
- Maintain and update current requirements for NorDig (**19 items on bugzilla list**).
- Update guidelines wordings in GUI and translations (mainly related Accessibility and Audio)
- Review and improve IRD's auto update for network changes
- FE (DVB-T/-T2) review if 800MHz scanning can be removed (NRK) and add optional requirements for 700MHz LTE immunity (hopefully via reference to ITU/ETSI) - **started**
- IPTV – ComHem launching IPTV and has some interest to updated current IPTV IRD requirement.
- IRD surveillance (like using TR069), some interest to investigate this more.
- SSU, add alternative for broadcasting SSU notification in accordance with new DVB SSU spec 2015 for IRDs with very large file size – **(DTG D-book v8 has incl this)**
- Recommendation Remote Control related to accessibility settings, check if possible to get a RC key for changing Accessibility setting or modify current requirements and recommendations. (Ensure RC can be via Smartphones etc) - **started**
- HbbTV – investigate and prepare update IRD spec for latest HbbTV v1.5 (i.e. latest errata) - **started**
- TV recorder – closed. No need to define TV Recorder (PVR lite) unless someone volunteer to come with a more concrete text proposal - **started**
- Mix of broadcast and OTT (ideal/intension one common channel list of broadcast and broadband/OTT services for hybrid receivers, viewers should ideal not notice zapping diff between zapping among broadcast or OTT services)

Excom – no comments (OK)



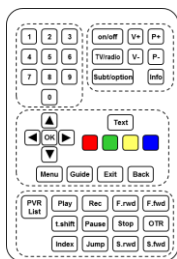
NorDig T report - IRD: Remote Control

NorDig Excom meeting 26th May 2015

Remote Control chapter under review

- Started as action related to Accessibility, to make it easier for these viewer to access these settings. Noted that the complete chapter needs to be updated, some text unclear.
- From beginning (1997/1998) requirements for physical keys (arrows, numeric, OK etc...).
- Now 2015 some IRDs use Remote Control with very few keys together with on-screen virtual keyboard ("magic wands"), smartphones/tablets, gesture, voice control etc.
- Reported that DTG D-book now has only functional requirements and not on physical keys.
- Industry (participating in our work) propose that NorDig changes requirement to functional requirements instead of requirements for physical keys. IRD manufacturers asking (NTV/RiksTV, Boxer etc) for approval to minimized RC (functional requirements instead of requirements on certain physical keys), partly due to not fully clear text today in IRD spec.
- NorDig T – “half-OK” to change to functional RC instead of physical keys, technical possible for (basic) IRDs but what about viewers expectations?
- NorDig T/API – OK from HbbTV specifications point of view, but physical Exit button, back button, arrows, OK and colour keys are vital to HbbTV apps. Numeric keys could be OSD.
- **NorDig Excom view?**
 - ~~Prel OK, NorDig T start prepare update of text to be functional requirements instead, or~~
 - Needs more inputs from members and investigation or
 - ~~Keep as today (clarify if not clear today)~~

Excom – Needs more investigation and get NorDig members view



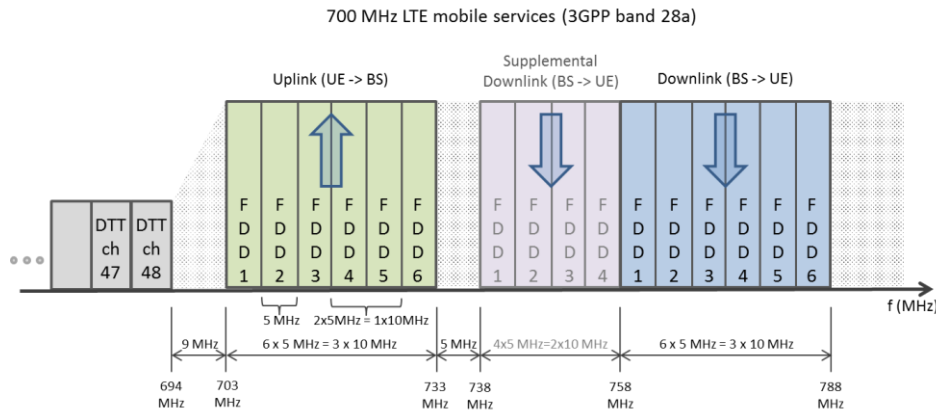
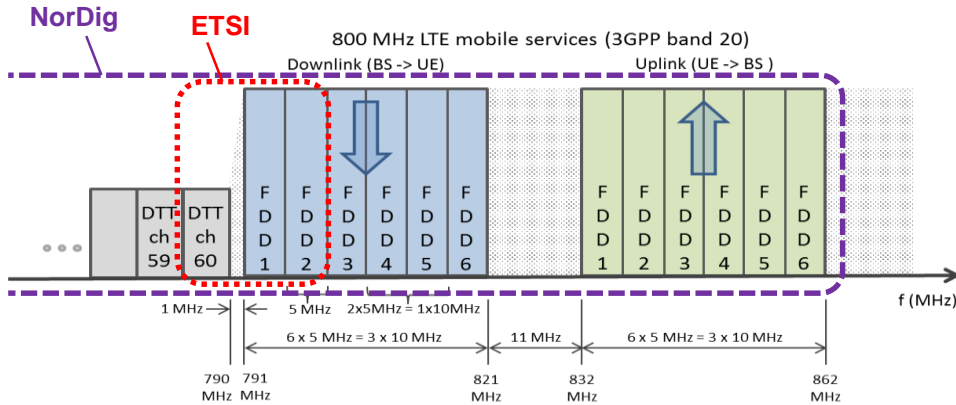


NorDig T report - IRD: 700MHz LTE interference

NorDig Excom meeting 26th May 2015

Info:

Teracom has 13 May presented inside NorDig T first draft proposal for DTT IRD requirements for immunity against 700MHz LTE interference signals, based on extending existing 800MHz LTE immunity requirements.



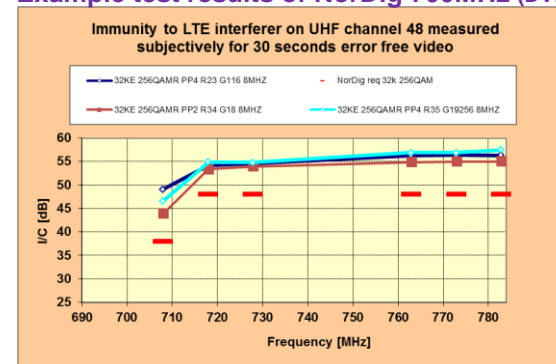
Excom – no comments

- New EU Radio Equipment Directive 2014/53/EU (RED) states: *“Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference”.*
- ETSI has drafted a harmonised standard that incl IRD requirements, test cases and test signals to be used (partly based on NorDig).
- ETSI requirement only for first adjacent channel interference and closest LTE FDD (2x)block
- ETSI level quite low (but higher than current NorDig)

Teracom proposal:

- Keep NorDig 800MHz LTE requirements + add 700MHz
- Keep requirements for the IRD’s whole freq range and for all LTE blocks (both 700 and 800MHz)
- First align (raise) levels to ETSI now and from 2017/2018 raise again resulting in slightly stricter than ETSI.
- Test cases and test signal still under preparation

Example test results of NorDig 700MHz (DVB-T2)





NorDig T report - TV recorder (PVR Lite) 1/2

NorDig Excom meeting 26th May 2015

Vestel Nordig PVR Lite / TV Recorder Proposal - [check NorDig Excom view before detailed](#)

- Nordig PVR spec is too heavy to implement (for IRD/TVset with simple recording capability).
- Is it possible to prepare a lighter version of PVR spec for IRD's with internal/external storages?
- What are the main expectations of an end user from a tv recorder?
 - **Setting a recording should be easy.**
One Touch Record, Setting timer from EPG(ESG), manual record entering date/time and duration.
 - **It should record required program completely without cutting from start or end of the program.**
Accurate Recording.
 - **Playback should be easy and pause, fast forward/fast rewind should be possible.**
Trick modes should be possible.
 - **Pause of live tv and continue after a short while would be very nice for a short break!**
Timeshift with trick modes should be possible.
- Since spec is light this is not a full PVR, so different naming can be discussed! For example name can be TV Recorder Ready! (earlier Excom proposed TV Recorder)

2013/2014 Previous NorDig discussion TV Recorder / PVR Lite:

- Main reasons: Current CI+ only allows 1 TS in/out, TV set has only 1 tuner, many TV sets has recording capacity, NorDig PVR Lite could be a sanity check level for basic recording.
- TV Recorder / PVR Lite only for single tuner iDTV (ie not for STBs or iDTV with multiple tuners)
- When CI+ (v1.4) allows for multi TS in/out should we keep PVR Lite/TV Recorder profile?

Excom – no comments on list of requirements, keep only allowed for iDTV/TV sets as before. If TV Recorder (“PVR Lite”) profile becomes mandatory for all IRDs with some kind of recordable functionality, then it has to be realistic that IRD manufactures can/will implement (i.e. supported by TV manufactures).



NorDig T report - TV recorder (PVR Lite) 2/2

NorDig Excom meeting 26th May 2015

		Require	All	Reference	TV Recorder			
		crids	IRDs	(full) PVR	Old ideas	2013/2014	Vestel new	
Overview list (main features)					Lite	Super-lite	Lite	Comment
General	EPG/ESG 8day guide			M	M	M	M	
General	Security/anti-piracy (local storage, interfaces...)		M*	M*	M*	M*	M	
General	Recording File System, Deletion of recordings, capacity			M	M	M	M+O	Disk management / de-fragmentation
Recording	Automatic conflict handling			M	M	M	M	
Recording	Basic requirement (30Mbps, SD/HD/radio, min length)			M	M	M	M	
Recording	Programming via ESG/EPG			M	M	M	M	
Recording	Manual recording			M	M	M	M	
Recording	Full service recording			M	M	M	M	
Recording	Accurate Recording			M	M	M	M	
Recording	Back-to-back recording			M	M	M?	O	
Recording	Timeshift recording			M	M	M?	M	
Recording	TVA crids – basic usage (e.g. for re-schedulling)	crids		M	M?	M?	O	here refer to using crids instead of event_id for individual recordings
Recording	Split Recordings	crids		M	M?	M?	O	
Recording	Simulcast (SD<>HD, regional versions)	crids		M	M?	M?	O	
Recording	Series recording (TVA crids)	crids		M	O?	O?	O	
Database	91days of recordings and previous recordings	crids		M	O?	O?	O	
Recording	Simultaneous recording ("two tuners")			M	O	O	O	one tuner and CI+ v1.3 (1in+1out)
Recording	Recommended events	crids		O	O	O	O	
Recording	Alternative instance	crids		O	O	O	O	
Recording	Recently removed recordings	crids		O	O	O	O	
Recording	Late Recording ("continous timeshift buffer")			O	O	O	O	
Recording	Safe margins			O	O	O	O	
Recording	Trailer booking/Promotional Linking	crids		O	O	O	O	
Recording	NorDig Broadcast Record Lists	crids		O	O	O	O	
Playback	Playback – basic requirement (incl sync)			M	M	M	M	
Playback	Playback – trick modes			M	M	M	M	
Playback	Playback – Full service playback			M	M	M	M	
Playback	Simultaneous recording and playback			M	M	M	M	



NorDig T report - HEVC

NorDig Excom meeting 26th May 2015

HEVC and TV format: investigation and commercial requirements

- not yet started (plan to start before summer, still much discussions in EBU+DVB+MPEG)
 - TV format: today's or new higher?
 - Codec: video and how about audio, subtitling?
 - I/O interphases (HDMI incl CP)
 - Signaling: DVB draft but nothing for simulcasting (outside DVB)
 - FE? together with modern/latest modulations?
 - Security requirements – most TV supporting HDMI 2.0 also follows MovieLabs HDCP v2.2
 - CA/DRM – together with CI+ v2? together CSA3 or DRM (128bits AES a la DVB)?
- DVB (and MPEG) still working UHD phase 2 (HDR, higher frame rate, “better pixels”...)
- DVB UHD phase 2 survey
- Italy and Germany (DTT) started requiring HEVC, 1080p50Hz 10bits (due to 700MHz spectrum)
- IRD Support for MPEG-H HEVC (short indicative check inside NorDig T with TV manufactures):
 - **Samsung:** support HEVC for higher model range, for OTT but also broadcast (future German market etc), uncertain if all UHD or HD.
 - **LG:** support HEVC for broad range models (except entry level models), for OTT and broadcast
 - **Sony:** support HEVC for higher model range, for OTT and broadcast for some markets
 - **Vestel:** developing support for HEVC for higher model range, for OTT maybe broadcast



NorDig T report - EPG interchange format

NorDig Excom meeting 26th May 2015

Common EPG/Event interchange delivery file format

- not yet started (plan to start before summer)
- Intension is to create a new subgroup supported by the API subgroup
- Use our consultant Peter Molsted, has very good experience in this area (lower prio than RoO work and inside budget)
- NorDig T view is that it would be an advantage to invite external (Nordic and Irish) broadcasters and operators into this work to get better acceptance.
- Excom - is it OK to invite external (non-members) broadcasters and operators into this work like Viasat, Telia, SBS, TV4 etc?

Excom – OK to invite external broadcasters and operators within our area



NorDig T report - short info standards

NorDig Excom meeting 26th May 2015

Short info about news/progress relevant Standards – NorDig members interest?

General

- DTG D-book v8 released March 2015 (incl Freeview connected, HbbTV and additions for sync 2nd screen)

Front Ends (NorDig IRD v2.5.1: DVB-S/-S2, -C, -T/-T2, some for “-IP”)

- US ATSC 3.0 complete new stack, IP-based (no longer MPEG2 TS based). ARIB Japan new satellite system, instead IP-based and MPEG-H MMT (no longer MPEG2 TS based).

Video & Audio (NorDig IRD v2.5.1: MPEG2 + MPEG4)

- MPEG-H HEVC, UHDTV phase 1 and Dolby AC4 (DVB finalizing subset & additional signaling details)
- UHDTV phase 2, DVB still working with Commercial Requirements

CA, CI+, DRM and security (NorDig IRD v2.5.1: CI+v1.3, scrambling DVB CSA, no CA, no DRM)

- CI+ v2.0 still under development, plan to include new form factor (PCMCIA → USB), waiting low level USB handling
- CI + v1.4, CI+ LLP (Limited Liability Partnership) plan to release license agreement June 2015
- Security – DVB investigate security and tamper proof aspects to ensure credibility with broadcast signals

HbbTV (NorDig IRD v2.5.1: HbbTV v1.5 aka ETSI TS 102796 v1.2.1)

- HbbTV v2.0 (draft ETSI TS 102796 v1.3.1) late 2014 w first impl early 2016, incl HTML5, sync devices etc
- HbbTV Test suits v1.5, 2014/2015 (NorDig contribute/propose)

I/O interfaces etc (NorDig IRD v2.5.1: HDMI v1.4, SCART output optional)

- HDMI v2.0 for UHDTV (4k, 10bit, 50/60Hz, but old colors and dynamics, Sep 2013)



NorDig T report – NorDig countries/networks

NorDig Excom meeting 26th May 2015

List of Countries using NorDig specifications (outside NorDig members), Several IRD manufactures and other mentions that several other territories and DVB networks refers or uses NorDig as basis for their IRD specs (especially “newer” networks). Among reasons seems open spec and content (T2, HbbTV, subtitling etc).

First list:

Country / Network	Status
Turkey DTT	Confirmed via Vestel
Several eastern Europe countries	Indications, not confirmed
Malaysia (<i>blue copy</i>)	Digita
Germany DTT (Media broadcast/TDF)	Based on/reference to NorDig IRD
Georgia DTT	Based on/reference to NorDig IRD (v2.2)



NorDig T report – website update (1/2)

NorDig Excom meeting 26th May 2015

NorDig website update and mail reflectors (inputs from Peter Molsted)

There has long been a desire to modernize the NorDig website to make it more useful for NorDig members and easier to access for other interested

Both the open section of the website and member section should be modernized and updated

Main wishes to better functionality and updates:

1. Editing and updating the permanent texts as NorDig organization, contacts...
2. Meeting schedules for Excom and NorDigT
3. Restructure / redesign document handling for the working groups
4. Mail reflectors which automatically sends mail when updates on the website

Proposal practical matters related to modernization and updating of NorDig website

- The NorDig website will continue be hosted by Labwise on their web platform
- Pasi Toiva (Labwise) will continue to take care of the technical part, publishing documents and specifications
- Peter Molsted (Technical secretary) will be responsible for the content updating, restructuring and administration of mail reflectors

Excom – OK, but investigate using standard “webhotel” instead of piggyback on Labwise webservice



NorDig T report – website update (2/2)

NorDig Excom meeting 26th May 2015

NorDig website update and mail reflectors (inputs from Peter Molsted)

1. Editing and updating the permanent texts as NorDig organization, contacts and Q&A.

- All texts must be reviewed and evaluated where improvements can be made in the structure and wording
- Continuous updating of content and texts, changes and news

2. Meeting schedules for Excom and NorDig-T

- Updated schedules with meetings and other activities in Excom and NorDigT
- The meeting schedules to be placed in the open section such that non Nordig members have the opportunity to see meetings schedules
- Meeting schedules as option for subgroup (in members section)

3. Restructure / redesign document handling for the working groups

- Template document structure for the subgroups
- Easily upload and download of documents

4. Mail reflectors which automatically sends mail when updates on the website

- Mail reflectors for the open section of the website for news and specifications
- Mail reflectors for member part of the website:
- Specific mail reflectors for respectively Excom and NorDigT and subgroups



NorDig T report –

NorDig Excom meeting 26th May 2015

END presentation NorDig-T report

~~After here some detailed informative slides~~