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Subject: Semantic of @type in <track> and mapping to national usage?

Posted by [Vasco Paul Kolmorgen](#) on Tue, 06 Jun 2017 13:41:17 GMT

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Dear IS-Community,

following the rules for the Discussion pages (see

[http://wiki.railml.org/index.php?title=Dev:Wiki\\_Documentation\\_Guidelines#Discussion\\_Pages](http://wiki.railml.org/index.php?title=Dev:Wiki_Documentation_Guidelines#Discussion_Pages)

i have to move the existing discussion about semantic of @type in

<track> and the mapping to national usage to this forum.

In the IS Developers group the a unclear mapping for the classifications

of the track in the type attribute was discussed and shall be improved

in a future version:

=== German usage / Deutsche Anwendung ===

The usage in Germany is currently AFAIK:

Durchgehendes Hauptgleis; pro Betriebsstelle immer Eines bei je Eingleisiger und Zwei je

zweigleisiger Strecken, mit Zugstraße Hauptgleis; alle anderen Gleise mit mindestens einer

Zugstraße Nebengleis; alle anderen Gleise ohne Zugstraßen, nur Rangierfahrten

Gleisverbindung; Gleise ohne eigenen Verkehrswert, in Weichenverbindungen, Überleitungen

The mapping for mainTrack to Deutschland:durchgehendes Hauptgleis is

nearby, but what's with the others:

secondaryTrack: This is a track not frequently used (e. g. for overtaking only). connectingTrack:

This is a transfer track from one to another track e. g. in branches, points or cross overs.

sidingTrack: This is a siding. stationTrack: This is a track in a station, possibly with platforms.

other: anything Any value that does not fit any value from the previous enumeration list, fulfilling

the constraint: at minimum two characters, whitespace is not allowed.

Any opinions for railML® 2.x and for a refactoring in railML® 3.x?

Best regards,

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Vasco Paul Kolmorgen - Governance Coordinator

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [Torben Brand](#) on Tue, 06 Jun 2017 13:47:19 GMT

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=== Norwegian usage / Norwegische Anwendung ===

The track types are defined in Norway according to definition in the

train operations regulation (Togremføringsforskriften)

<https://lovdata.no/dokument/SF/forskrift/2008-02-29-240>. The operations

regulation divides the line into two types. Either a station or a path (between stations). A station is defined where signals are received or given. The station border is at the home signals. A station has three types of track: main (hovedtogspor), station (togspor) or secondary (øvrige). The distinction is dependent on the route information. The main track is the track to drive into the station in the switches normal position. All other tracks that have (main signal) routes going over them are station tracks (togspor). All other tracks (without main signal routes, like shunting routes or no routes [like shunting areas]\_) are secondary tracks (øvrige spor).

The path has also three types of track: main (hovedspor), siding (sidespor) and connection (not defined in Norway, but sometimes referred to as "forbindelsesspor"). The main track is the main track on the path. To distinguish between the two tracks on a double track line they are referred to in the direction of increasing mileage as right main track (høyre hovedspor) or left main track (venstre hovedspor). This corresponds in railML to dir="up" (right/høyre) and dir="down" (left/venstre).

For the ocp operational type other:siding (sidespor) we have the track type siding (sidespor). A siding is in Norway defined as an ocp on the path that is not a station. The ocp has to have an additional track of type siding track. Usual sidings in Norway are factory tracks on the path, for loading and unloading industrial products and timber. The switch leading to the siding track needs to be locked. We do not have connecting tracks in Norway. In case we would have a track connection between the two main tracks on a double tracked line that does not have route og over it, we would call it a connection track (forbindelsesspor).

In the case where a single track becomes a double track at an ocp operational type junction or station. Here the main track that goes over the switch in the normal position stays main track all the way through the station. The track in the diverging switch track (not the switches normal position) is the station track (togspor). The two tracks meet at the exit signal.

The same happens in the special case where you have no main track that goes unbroken through a station. There the main tracks overlap and end at the exit signal on the other side of the ocp cross section. Then the track continues as type station track.

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Subject: Re: Semantic of @type in <track> and mapping to national usage?  
Posted by \_\_\_\_\_ on Wed, 07 Jun 2017 09:24:11 GMT

Dear all,

we do currently map the German usage quoted by Vasco to the railML values as follows:

- \* Durchgehendes Hauptgleis == mainTrack
- \* nicht-durchgehendes Hauptgleis == sidingTrack
- \* Gleisverbindung == connectingTrack
- \* Nebengleis == secondaryTrack

railML:stationTrack is not used since "station" is not a well-defined element in railML.

I would prefer for the future

1) to publish a kind of "matrix" in railML:wiki to map the national terms to railML terms in the above mentioned kind. We could already define this matrix for Norway and Germany from Torben's and my statements.

2) to clarify and tidy the terms (including enumeration values) for railML3.

I would agree with Torben concerning the Norwegian mapping

hovedtogspor == mainTrack  
øvrige spor == secondaryTrack

I would prefer

togspor == sidingTrack, not stationTrack

because hovedtogspor and øvrige spor are also in stations which could mislead. But anyway, any mapping is better than nothing.

> For the ocp operational type other:siding (sidespor) we have the track type siding (sidespor). A siding is in Norway defined as an ocp on the path that is not a station. The ocp has to have an additional track of type siding track. Usual sidings in Norway are factory tracks on the path, for loading and unloading industrial products and timber. The switch leading to the siding track needs to be locked.

I agree with that kind of <ocp> and I think it is general for any country, not special for Norway (Germany: Anschlussstelle or Ausweichanschlussstelle depending on kind of interlocking of the switch).

But I think the additional track behind the switch should be "secondaryTrack", not "sidingTrack" since the operation in and out of this track are shunting operations, not train operations. (The train operation ends before the switch is turned for the sidespor; the train restarts after the switch has been locked again away from the sidespor - is this right?)

But again: This is a suggestion only aiming to compatibility; Torben should have the last word concerning Norway.

> In case we would have a track connection between the two main tracks on a double tracked line that does not have route og over it, we would call it a connection track (forbindelsesspor).

I agree completely.

Suggestion for next step: If somebody could prepare a matrix table with track types at a new Wiki page,

- I would fill it for Germany,
- Torben could fill it for Norway.

(My Wiki knowledge is too less to set up by myself.)

Best regards,  
Dirk.

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [Ferri Leberl](#) on Sun, 11 Jun 2017 14:55:46 GMT

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I have startet the summary table here. Please, inform me if you see any lapses.

Yours, Ferri

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by \_\_\_\_\_ on Mon, 12 Jun 2017 10:46:13 GMT

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Dear Ferri,

very good, thank you. There is nothing left to do for us!

Dirk.

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by \_\_\_\_\_ on Mon, 12 Jun 2017 17:52:09 GMT

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Dear all,

in my post from 07th June 2017 I made a mistake. The usage of "sidingTrack" properly corresponds to German "Nebengleis". Thank you to Ferri for pointing that out.

So we corrected "nicht-durchgehendes Hauptgleis" to "secondaryTrack".  
"stationTrack" would also be possible but we rather want to avoid it since "station" is not a well-defined element in railML and a siding would also be a track in a station.

What really would be needed is a railML expression for a "loop" track in a station (loop for overtaking and/or crossing). For the moment, we added a remark in Wiki that "secondaryTrack"

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shall include loops. For railML 3, may be Christian could have an eye on clarifying the ambiguity between stationTracks, loops, sidings and secondaryTracks.

So our German assignment is:

- \* Durchgehendes Hauptgleis == mainTrack
- \* nicht-durchgehendes Hauptgleis == secondaryTrack
- \* Gleisverbindung == connectingTrack
- \* Nebengleis == sidingTrack

Ferri already created a matrix table at [1] and corrected it. Thank you very much!

Any objections against correcting the blue German explanations under @type at [2] corresponding to the new table at [1]?

With best regards,  
Dirk.

[1] <https://wiki.railml.org/index.php?title=Talk:IS:track#Summaryofthenationalusageoftype>

[2] <https://wiki.railml.org/index.php?title=IS:track#type>

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [Alexander Schmidt](#) on Mon, 19 Jun 2017 18:28:25 GMT

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dear all,

here are the swiss categories for tracks:

- \* Main Track = Hauptgleis = Signalisiertes Gleis ... "Signalisiertes Gleis" meaning that there are main and distant signals (no dwarf signals)
- \* Secondary Track = Nebengleis = Nicht signalisiertes Gleis

furthermore, we have an additional differentiation of five main track categories (and one secondary track categories) depending on the criteria load (belastung), speed (geschwindigkeit) and continuous track (durchgehendes gleis):

- \* main track category 1: Durchgehende Gleise zwischen und in den Bahnhöfen mit einer täglichen Gesamtbruttotonnenbelastung von mehr als 30'000 Tonnen oder Linienführung und Infrastruktur für hohe Fahrgeschwindigkeiten grösser gleich 140 km/h.
- \* main track category 2: Durchgehende Gleise zwischen und in den Bahnhöfen mit einer täglichen Gesamtbruttotonnenbelastung von 15'000 bis 30'000 Tonnen.
- \* main track category 3: Durchgehende Gleise zwischen und in den Bahnhöfen mit einer täglichen Gesamtbruttotonnenbelastung von weniger als 15'000 Tonnen.
- \* main track category 4: Bahnhofsgleise mit einer Geschwindigkeit grösser gleich 60 km/h oder einer täglichen Gesamtbruttotonnenbelastung von mehr als 30'000 Tonnen.
- \* main track category 5: Bahnhofsgleise mit einer Geschwindigkeit kleiner 60 km/h

\* secondary track category: Nebengleise umfassen alle Stationsgleise (Abstell-, Rangier-, Formationsgleise), welche nicht als Zugfahrstrassen genutzt werden.

sorry, definitions are only available in german. if needed in english, I could provide translations in july.

best regards, alex.

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Subject: Reply from Norway to Semantic of @type in <track> and mapping to national usage

Posted by [Torben Brand](#) on Fri, 14 Jul 2017 07:41:31 GMT

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Some quick research I have done of how track types are modelled in Norway, UK and Germany have shown that there are three hierarchical type of tracks: 1. main, 2. secondary(loop) and 3. siding tracks. Station tracks are tracks with platforms. This is modelled through setting a stopPost and/or platformEdge along the track in railML. Thus we do not need this superfluous declaration. The definition of main tracks are usually the same in all three nations as the track straight/in normal position through a station from the open section of the line. The secondary track (suggested as "loop track" in railML3) are in Norway the tracks except the main track from which you can leave the station. Siding tracks are the tertiary tracks, referred to as "other" tracks in Norway. I agree to use siding track here for this. We can distinguish from a siding track in a station from a siding track on a siding through the value pair with <ocp/propOperational@operationalType="station" and the new suggested "siding". We do not currently use connecting tracks in Norway. They are declared as secondary tracks here. But we can relate to the logic to differentiating out the tracks that have no operational function on it's own, but only connecting tracks which have a function. We will probably take advantage of this declaration in the future.

So to summarize we in Norway agree with the mapping of Dirk, Christian and Vasco.

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [Daan van der Meij](#) on Mon, 21 Aug 2017 12:06:12 GMT

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Dear Vasco,

The answers are not easy, because there probably are some differences between the countries. I will try to give the best possible answers. The information can be found in different laws ("wetten") and regulations and are published by the government:

1 Spoorwegwet

2 Wet lokaal spoor

- 3 Besluit aanwijzing hoofdspoorwegen
- 4 Besluit aanwijzing lokale spoorwegen
- 5 Besluit bijzondere spoorwegen

The track types are:

- \* hoofdspoorweg - as listed in the "Besluit aanwijzing hoofdspoorwegen"
- \* lokaalspoorweg - as listed in the "Besluit aanwijzing locale spoorwegen "
- \* raccordement - Dutch voor siding, usually for connecting a factory to the main track.

If you have any questions or remarks, please let me know.

Kind regards,  
Daan

Am 06.06.2017 um 15:41 schrieb Vasco Paul Kolmorgen:

- > Dear IS-Community,
- >
- > following the rules for the Discussion pages (see
- > [http://wiki.railml.org/index.php?title=Dev:Wiki\\_Documentation\\_Guidelines#Discussion\\_Pages](http://wiki.railml.org/index.php?title=Dev:Wiki_Documentation_Guidelines#Discussion_Pages))
- >
- > i have to move the existing discussion about semantic of @type in
- > <track> and the mapping to national usage to this forum.
- > Any opinions for railML® 2.x and for a refactoring in railML® 3.x?
- >
- > Best regards,

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Subject: Re: Semantic of @type in <track> and mapping to national usage?  
Posted by \_\_\_\_\_ on Mon, 21 Aug 2017 13:10:34 GMT  
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Dear Vasco.

we divide tracks into two categories:

Station limits are the same as in Germany. For stations equipped by main signals are at the home signals and for stations without main signals are at the trapezoidal boards (like "Trapeztafel" in German).

Depending on the purpose of use:

- Dopravní koleje / EN: traffic tracks / DE: Betriebsgleise are used for train movements

shunting movements only

## Station tracks

- Hlavní kolej / EN: main track / DE: Hauptgleis is traffic track and it is direct continuation of line track. Usually has the same number with line track.
- Spojovací kolej / EN: connecting track / DE: ? is track connecting different parts of the station, if there is not line track between them. Connecting track could be either traffic track or siding track.
- Kolejová spojka / EN: track or switch connection / DE: ? - is short track connection between two turnouts (switches) of neighbouring tracks.

Best regards

Ing. Lukáš Fiala

www.szdc.cz "

Am 06.06.2017 um 15:41 schrieb Vasco Paul Kolmorgen:

- > Dear IS-Community,
- >
- > following the rules for the Discussion pages (see
- > [http://wiki.railml.org/index.php?title=Dev:Wiki\\_Documentation\\_Guidelines#Discussion\\_Pages](http://wiki.railml.org/index.php?title=Dev:Wiki_Documentation_Guidelines#Discussion_Pages))
- >
- > i have to move the existing discussion about semantic of @type in
- > <track> and the mapping to national usage to this forum.
- >
- > ....
- >
- > Any opinions for railML® 2.x and for a refactoring in railML® 3.x?

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [Christoph Klaus](#) on Mon, 21 Aug 2017 14:07:41 GMT

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Hi Vasco,

the regulations for train operations (Ril 408.0101A01) give the following definitions:

Durchgehendes Hauptgleis: Main tracks of the line and their continuation



in the station.

Hauptgleis: Tracks which are driven by trains regularly.

Nebengleis: Tracks which are not driven by trains regularly.

So the current explanation of secondaryTrack in the railML wiki ("This is a track not frequently used.") should be expanded for describing "nicht-durchgehendes Hauptgleis".

The same counts for sidingTrack in the meaning of "Nebengleis".

I hope this feedback is helpful for you.

Best regards,  
Christoph Klaus

DB Netz AG  
Zentrale / Technik- und Anlagenmanagement STE  
Caroline-Michaelis-Straße 5-11, 10115 Berlin

Am 06.06.2017 um 15:41 schrieb Vasco Paul Kolmorgen:

- > === German usage / Deutsche Anwendung ===
- >
- > The usage in Germany is currently AFAIK:
- > \* Durchgehendes Hauptgleis; pro Betriebsstelle immer Eines bei je
- > Eingleisiger und Zwei je zweigleisiger Strecken, mit Zugstraße
- > \* Hauptgleis; alle anderen Gleise mit mindestens einer Zugstraße
- > \* Nebengleis; alle anderen Gleise ohne Zugstraßen, nur Rangierfahrten
- > \* Gleisverbindung; Gleise ohne eigenen Verkehrswert, in
- > Weichenverbindungen, Überleitungen
- >
- > The mapping for mainTrack to Deutschland:durchgehendes Hauptgleis is
- > nearby, but what's with the others:
- > \* secondaryTrack: This is a track not frequently used (e. g. for
- > overtaking only).
- > \* connectingTrack: This is a transfer track from one to another track
- > e. g. in branches, points or cross overs.
- > \* sidingTrack: This is a siding.
- > \* stationTrack: This is a track in a station, possibly with plattformen.
- > \* other: anything Any value that does not fit any value from the
- > previous enumeration list, fulfilling the constraint: at minimum two
- > characters, whitespace is not allowed.
- >
- > Any opinions for railML® 2.x and for a refactoring in railML® 3.x?
- >
- > Best regards,

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Subject: Re: Semantic of @type in <track> and mapping to national usage?

Posted by [christian.rahmig](#) on Mon, 29 Jan 2018 11:00:03 GMT

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Dear all,

thank you very much for all your contributions to answering the track type question. Based on your replies, we at railML.org created a tabular overview of the different track types and their usage in different countries (see [1]).

Following the tabular overview, we decided to declare the currently existing track type "stationTrack" being DEPRECATED with version 2.4. Thus, the attribute <track>@type primarily allows for the following values:

- \* mainTrack
- \* secondaryTrack
- \* connectingTrack
- \* sidingTrack

Since the enumeration is open, the definition of other enumeration values in form of an extension to the schema remains possible.

This implementation closes the railML 2.4 Trac ticket #318 [2].

[1]

[http://wiki.railml.org/index.php?title=IS:track#national\\_usa\\_ge\\_of\\_.40type](http://wiki.railml.org/index.php?title=IS:track#national_usa_ge_of_.40type)

[2] <https://trac.railml.org/ticket/318>

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Christian Rahmig - Infrastructure scheme coordinator

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