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Subject: Re: trainProtectionElement, ETCS and balises  
Posted by [Christian Rahmig](#) on Sun, 02 Dec 2012 09:22:20 GMT  
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Dear Susanne and other railML users,

```
> <trainProtectionElement id="tp1" pos="10.0" trainProtectionSystem="PZB90" model="500Hz"/>
> <trainProtectionElement id="tp2" pos="460.0" trainProtectionSystem="PZ80"
model="2000Hz"/>
> <trainProtectionElement id="tp3" post="455.0" trainProtectionSystem="ETCS"/>
>
> * PZB90, PZ80 and INDUSI60 are different hardware/software releases at
> the vehicle providing different functionality. The magnets next to the
> rail are the same. de:[1]
>
> Another type for the infrastructure view at the train protection
> elements is needed.
```

I agree with you and consequently we should throw out all enumeration values that further define the train protection system. Alternatively, I suggest to define two separate lists for listing train protection systems. The first one focuses on the train protection system device installed to the train and contains the enumeration values as currently available in "tNationalSystemsType". Maybe we should rename it "tNationalSystemsTypeForVehicle"? The second list "tNationalSystemsTypeOnRail" might be shorter because of discarding values such as 'IndusiXY' and summarizing them to 'PZB'.

```
> * What to do, if the value 'ETCS' is used? What does it mean?
>
> If it's a balise, the appropriate element 'balise' or 'baliseGroup'
> should be used.
>
> If it's a GSM-R zone, the new element 'trainRadio' should be used
> (attention: currently not implemented).
>
> If it's a border of an ETCS-equipped zone the 'trainProtectionChange'
> element should be used.
```

In my opinion, the value 'ETCS' should only be used in case I need to define the position of an ETCS train protection element without knowing the certain train protection element type (balise, loop, ...).

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> [1] http://de.wikipedia.org/wiki/Punkt%26mige\_Zugbeeinflussung
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Regards

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Christian Rahmig  
railML.infrastructure coordinator

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