# Nauk.si metadata scheme and translation to LRE4 AP

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## www.nauk.si

- Common repository for a number of e-learning projects
- Learning resources for
  - Mathematics (secondary schools)
  - Physics (primary/secondary schools)
  - Computer science (secondary schools/higher education)
  - Logic (part of primary school mathematics)

# Resources in nauk.si

- Wiki-like language for resource composition with many additional elements
  - embedding images, videos, sounds
  - standard quiz types (single/multichoice, matching, text and numeric answers)
  - crosswords, logical puzzles, sudoku, futoshiki
  - measurement tools for physics
- Advanced answer checking and decisions based on general expressions

```
= Avto v ovinku|1 =
Z avtomobilom smo zapeljali v ovinek, ki ga prikazuje slika. S pomočjo slike in orodja izmerite
    polmer ovinka.

[[ @centered image:./datoteke/ovinek.png,
  description=Avto v ovinku,
  width=508,
  height=456,
 --- tools ---
    [[tool:distance, name = "polmer",
      description = "merjenje polmera",
      unit = m,
      unitFactor = 3.3]]
]]

$R =$ [? numeric:radij, width=50 ?] m

 [[teacher| Pri določanju polmera ovinka je ključno, da se zavedamo, da je ovinek le del krožnice,
    katere polmer iščemo. ]]

=?
| radij = 47+-5    => uspeh1
|        => narobe1
```
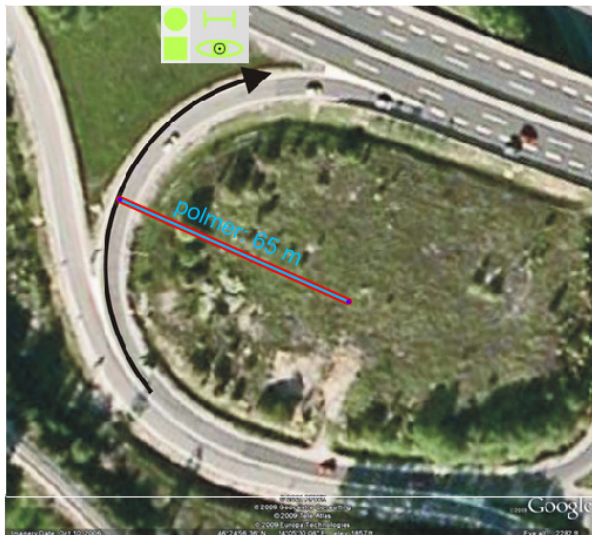
## Avto v ovinku

Z avtomobilom smo zapeljali v ovinek, ki ga prikazuje slika. S pomočjo slike in orodja izmerite polmer ovinka.



polmer: 65 m

$R =$ ☐ m

# Metadata scheme

- Basic data (title, description, free keywords, author, reviewer)
- Set of standard licenses (most CC-NC-SA, some proprietary)
- Internal vocabularies: resource type, learning time, language, originating project
- Hierarchical classification (based on Slovene curriculum)

## Conversion to LRE3/LRE4 issues

- Due to simplicity of original metadata the mapping was quite straightforward
- A problem is that some of our metadata is just in Slovene language (title, description)
  - should we try automatic translation?
- "Project" doesn't have a corresponding mapping
- Slovene curriculum themes mapped to LRE Thesaurus – very lossy

## Classification mapping

- LRE Thesaurus is not very precise (at least not for natural science education)
  - e.g. nearest match for "straight and curved motion" is "mechanics (physics)"
- We try to match our hierarchy, though hierarchy in LRE Thesaurus is completely different
  - "physics / secondary education / straight and curved motion"   maps to
    "physics / secondary education / mechanics (physics)"

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# Formats

- Just mime-type and some standard packagings allowed in ILOX, difficult for non-standard or extended formats
- It would be useful to express things like
  - you can **play** this format with this program / web page / web service
  - you can **edit** this format with this program / web page / web service

```
<!DOCTYPE metadata SYSTEM "/var/nauk/www.nauk.si/public/materials/metadata-strict.dtd">
<metadata>
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  <host>http://www.nauk.si</host>
  <url>http://www.nauk.si/materials/132/out/</url>
  <title>Avto v ovinku</title>
  <author>Timotej Maroševič</author>
  <description>Zapisati radialni pospešek, pojasniti njegov pomen in ga izračunati za dano
    enakomerno kroženje. Razumeti izpeljavo izraza za radialni pospešek pri enakomernem kroženju
    in ga pri obravnavi sil povezati s centripetalno silo.</description>
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    <taxon>Srednja šola</taxon>
    <taxon>Premo in krivo gibanje</taxon>
  </classification>
  <license>CC BY-NC-SA</license>
  <project>NAUK (MŠŠ-ESS)</project>
  <reviewer>A. Ramšak</reviewer>
  <reviewer>V. Babič</reviewer>
  <modified_at>2010-09-22 08:20:11 +0200</modified_at>
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```

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NonCommercial - ShareAlike 2.5 Licence (Slovenia)</string>
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```