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Transformation pipelines for PROJ.4

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Danish Agency for Data Supply and Efficiency

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PROJ.4?

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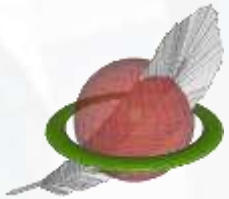
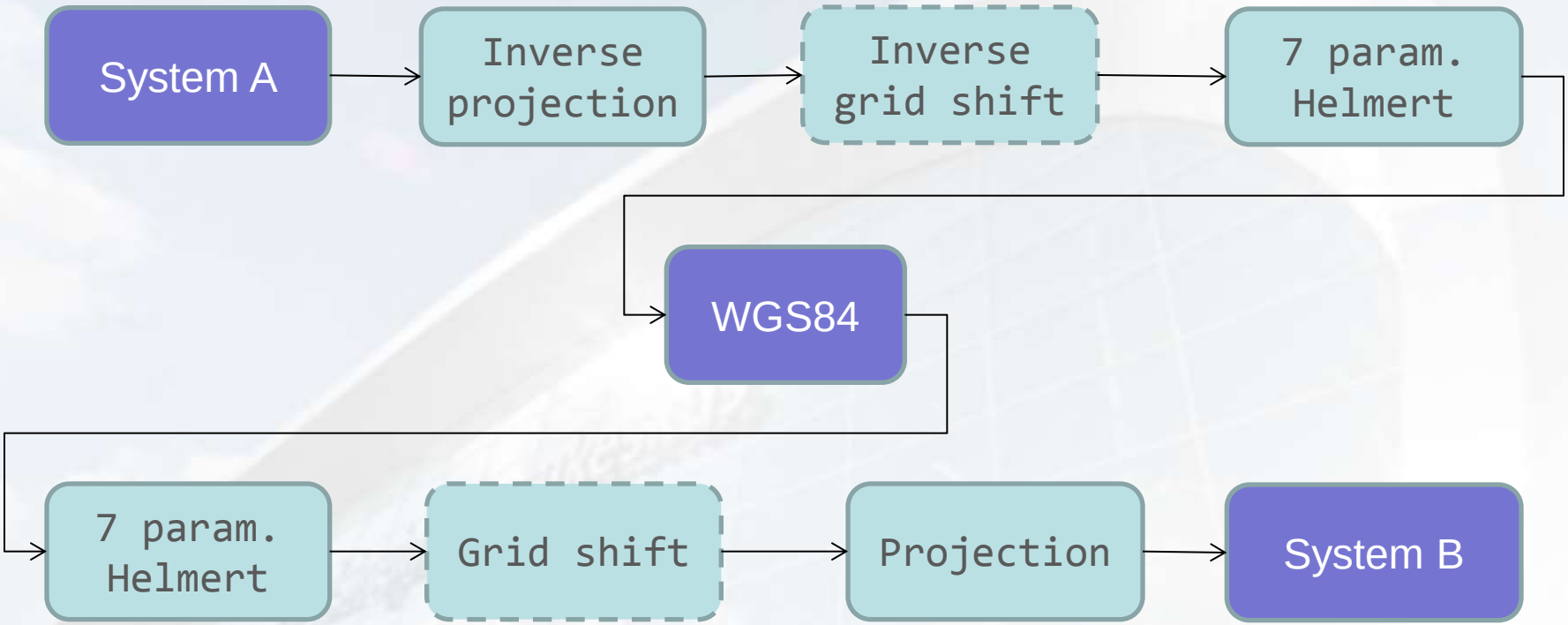


Datum shifts in PROJ.4 (and GIS in general) today



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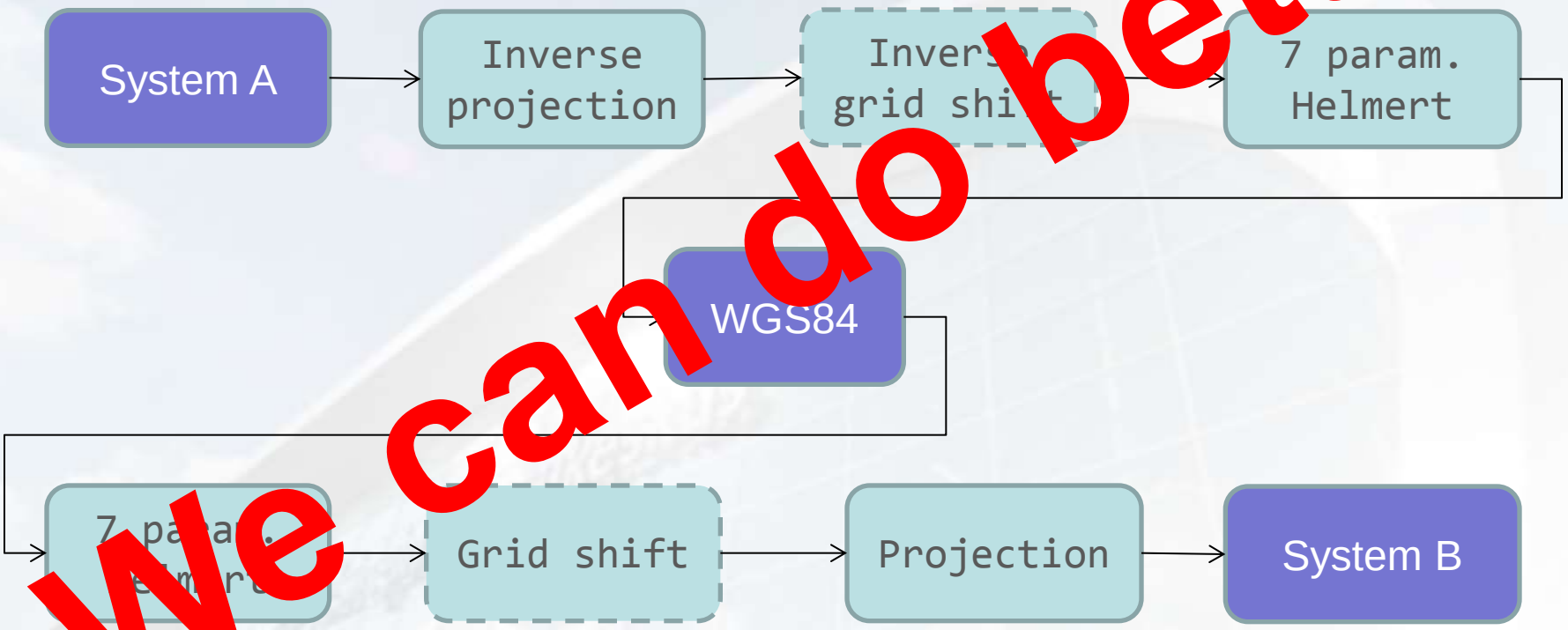
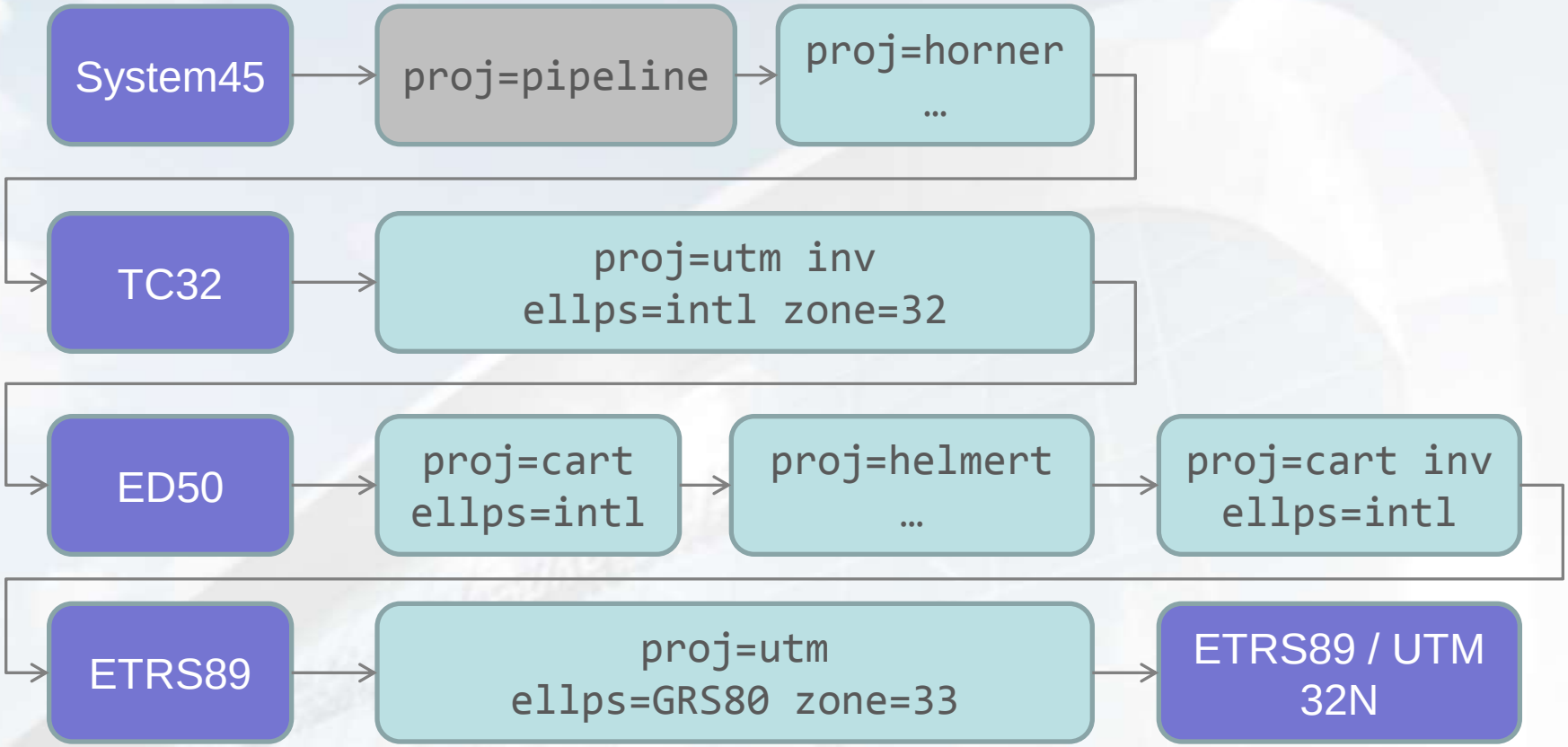


We can do better!

Introducing Transformation Pipelines

- A flexible framework that allows for complex transformations
- Transformations are constructed as a set of daisy-chained basic building blocks
- Not limited to spatial transformations – pipelines are fully time-aware
- More than two geodetic techniques available
  - 14-parameter shift
  - Velocity and deformation models
  - Molodensky transform
  - Polynomial mappings
  - Affine transformation
  - …


System45
proj=pipeline
proj=horner
…
TC32
proj=utm inv
ellps=intl zone=32
ED50
proj=cart
ellps=intl
proj=helmert
…
proj=cart inv
ellps=intl
ETRS89
proj=utm
ellps=GRS80 zone=33
ETRS89 / UTM
32N

> ”*A **lot of luck** to whoever want to put together the computational part of the datum shift software.*
>
> - Gerald I. Evenden, 2000