The last five years has seen fundamental shifts in the attention (by ICSU, International Unions and Nations) that is being given to data in all its forms. Efforts are being energized by the emergence of data science as a fourth paradigm of science, and the awareness that core and common informatics (the science and engineering of data and information systems) capabilities are proliferating.

Now is the time to enable scientific endeavours to confront both the challenging problems of the day as well as the data and information explosion we are faced with. Moreover, the few current success stories must be turned into repeatable and sustainable. This means that for Data Science and Informatics to truly be one of the means of how science is conducted, the infrastructure must also be in place, as it is for observational, experimental and computational capabilities. However, the informatics infrastructure is not in place and hardly qualifies as infrastructure (yet).

This talk will present some directions to be taken (including for IUGG/UCDI) and immediate roadblocks to be overcome, drawing both on the presenters experience and from ICSU strategic discussions on information and data.