

## **PALAEOZOIC AMALGAMATION OF CENTRAL EUROPE: AVALONIAN AND VARISCAN BLOCKS ABUTTING BALTICA ALONG THE TESZ.**

1WINCHESTER, J.A, 2PHARAOH,T.C, 3KOTKOVA,J, and the PACE TMR Network Team.

Multidisciplinary studies of geotranssects across the North European Plain and Southern North Sea, and reassessment of aspects of the Variscides of the North Bohemian Massif permit a new 3-D look at the relationships of the principal crustal blocks abutting Baltica along the Trans-European Suture Zone (TESZ).

Geophysical data, and dating cores reveal a concealed extension of Avalonia to NW Poland. Further SE, the location and dip of reflectors along the TESZ, suggest that blocks from the 'Armorican Terrane Assemblage' (ATA) overrode the Baltica margin on shallowly SW-dipping thrust planes. Beneath the North European Plain deep seismic data reveal structures relating to the docking of Avalonia. N of the Elbe Line and close to the 'Caledonian Deformation Front' seismic profiles show a high-velocity lower crustal layer thought to be the former Baltica passive margin, overridden by Avalonian crust. In the 'Variscan orocline' in SW Poland, deformed Variscides may overlie Avalonian crust linking at depth the Moravian and Upper Silesian blocks with the Avalonian of Germany. These may, with blocks further SE, form the easternmost end of Avalonia, detached by dextral shearing as it collided obliquely with Baltica.

In the NE Bohemian and Rhenohercynian Massifs Devonian early Variscide deformation was dominated by WNW and NW-directed thrusting, recording closure of Ordovician-Devonian seaways between detached 'islands' of the ATA and Avalonia. Initial collision was therefore probably with the S margin of Avalonia, already part of the 'Old Red Continent'. Subsequent N-S compression and dextral strike-slip faulting may record ATA collision with Baltica.