



European coastal mapping

European coastal mapping, needs

Shallow water navigation

Integrated Coastal Zone Management

Shoreline Strategy

Submersion

Facing marine submersion within sealevel rise



European coastal mapping, tools

Lidar Bathymetry

Photogrammetry

Radiometry

Multibeam echo sounder



European coastal mapping, availability

UK Pelydryn (relatively small business)



European coastal mapping, experiences and existing programmes, know-how

Blast project (North Sea)

Baltic Sea (ongoing tests)

Malta (Pelydryn)

French coasts in Europe and in overseas territories



European coastal mapping, seamless landsea mapping

Addressing the needs of

-evaluation of risk of marine submersion

-integrated coastal zone management

Require to get seamless landsea mapping

It requires to be able to involve land geographic authorities

And to make arrangements with it.



European coastal mapping, EU policies

DG Mare,

Integrated Maritime Policy, Marine knowledge 2020

DG Clima

**Help EU to deal with the consequences of climate change
(see level rise)**

See Communication 216 of 16.4.2013

DG Env

Inspire compliance of databases

Any other contribution to other policies ?



European coastal mapping, scope of some examples

USA :Length of the shoreline 150 000 km

Seaside extension, 1 km, 5m spacing

Landside extension, 0,5 km, 1m spacing

Begun 2004, completed 16 000 km

France: length of shoreline 5000 km

Seaside extension, 6 nautical Mille or 10m deep; the nearer. 5m spacing

Landside extension, 2 km or 10m high, the farer. 1m spacing

European Union coastline 68 000 km (or 100 000 km)



European coastal mapping, which extension ?

Main drivers:

- marine submersion
- marine erosion

Other drivers:

- safety of navigation
- marine spatial planning

Which extension seaside, landside ?

Depending on sea level rise rate, on severity of storms, on ...

Which priority along the coastline ?

Depending on vulnerability,

Which period of recurrence ?

Depending on erosion's rate



European coastal mapping, costs and time

Costs and time coarse evaluation

From Litto3D experience:

1 bathymetric Lidar device: 4000 km² per year

Investment cost, for one device 3,5 M€

Typical survey costs (seaside) 1,5 k€ per 1 km²



European coastal mapping, way ahead

To respond EU needs

Common programme ?

Common device bathymetric Lidar ?

Which involvement from EC

