Edge Matching

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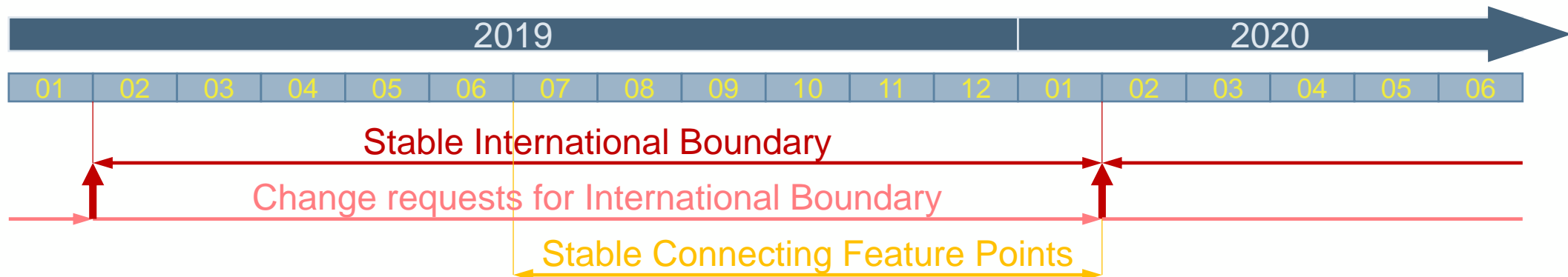# Webinar of the EG Data Producers to kick-off production

Agenda

International Boundaries
Edge Matching Process
Connecting Features
Features located on the International Boundary

International Boundaries

- International Boundaries:
  - IB Master
  - IB Regional → Valid version: IB_Regional_2020.gdb (on BKG-FTP)
  - IB Global

  → NMCAs are not allowed to make any changes on these boundaries on their own

- In case of issues (International Boundaries, Connecting Features, features on border)
  → Contact: ebrm@bkg.bund.de

- Please keep in mind:
  We don't aim to find the legally defined international boundaries. We do need pragmatic solution how to represent the boundaries in medium scale for the products EBM and ERM.

International Boundaries

- Change management
  - Changes of International Boundary (IB) or Connecting Features (CF) have to be accepted by neighbouring countries!
  - IB is now stable for EBM/ERM 2020
  - Changes for CFs can be accepted until June 2019
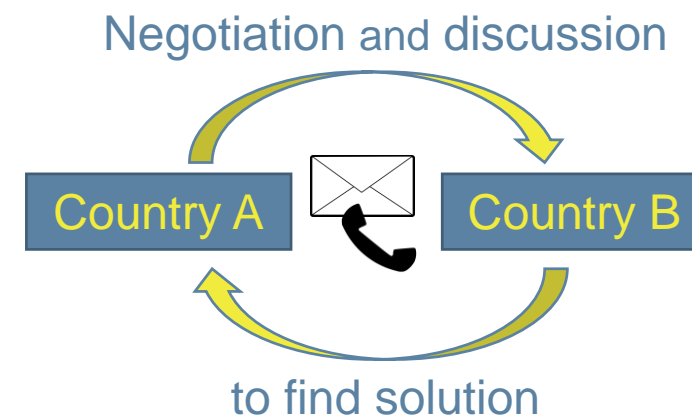 - Change requests for IB to be valid in EBM/ERM 2021 until January 2020

Edge Matching Process

- Initial Edge Matching
  - High degree of coordination between neighbouring countries
  - Time-consuming
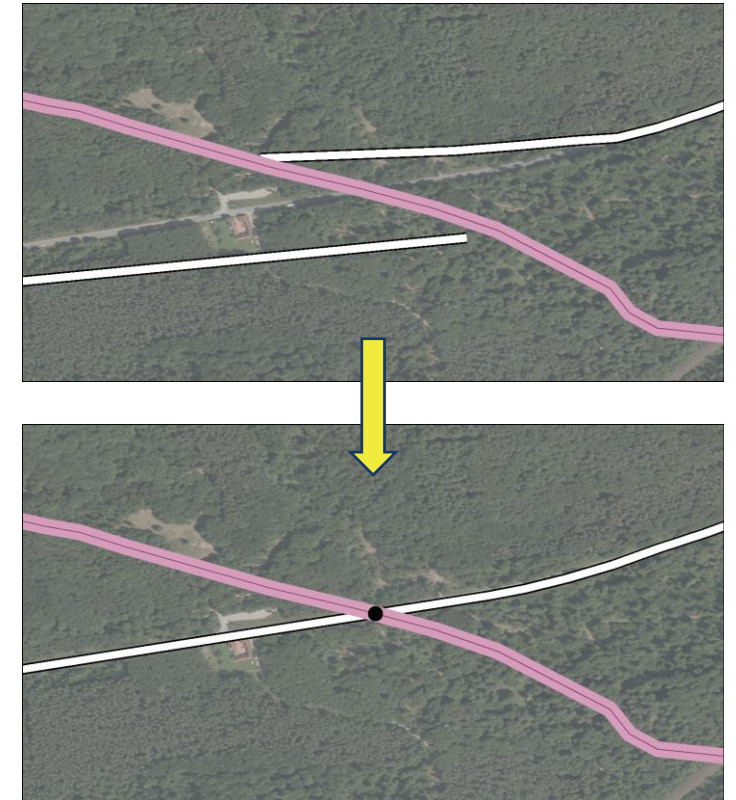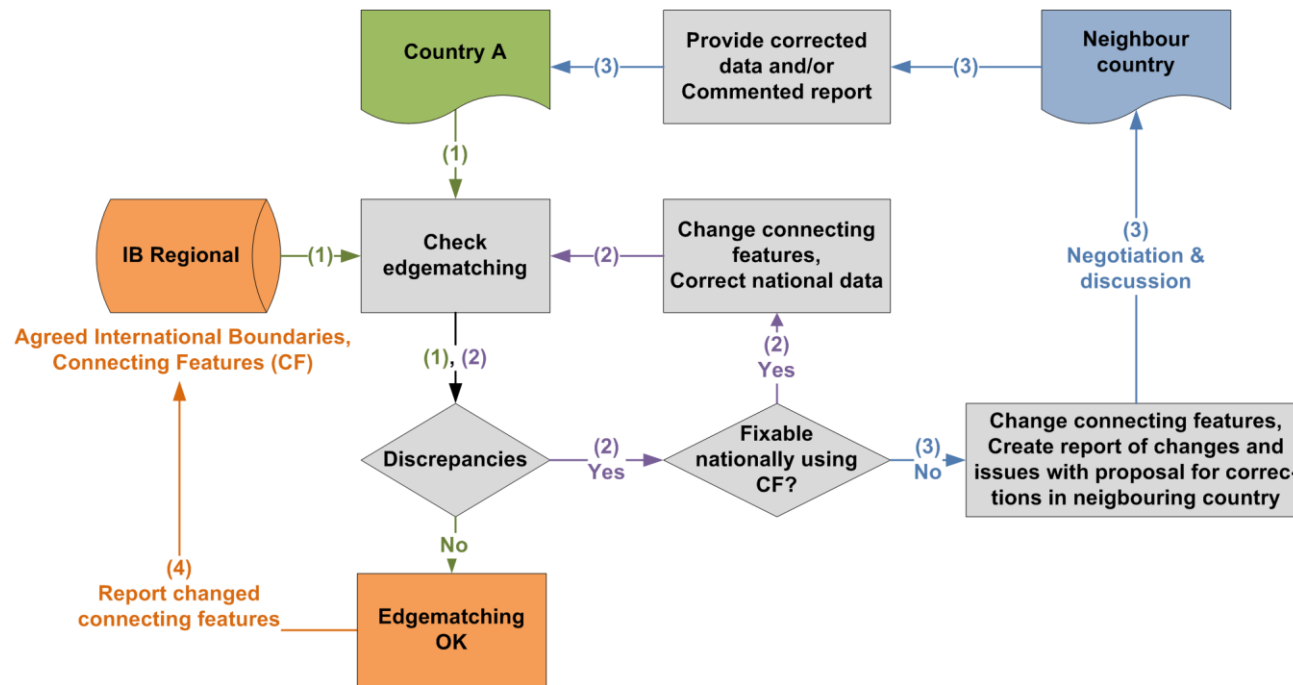 - Are results taken over in national databases?

- Solution for EBM and ERM
  - Optimizing coordination processes
  - Saving results as Connecting Features
    → Represent locations on the IB Regional where features from neighbouring countries connect
  - Concept and workflow well described in ERM Edge Matching Rules, section 1.2.1 pp

Negotiation and discussion

Country A   Country B

to find solution

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Edge Matching Process

- Workflow of ERM edge matching procedure using IB Regional and Connecting Features:
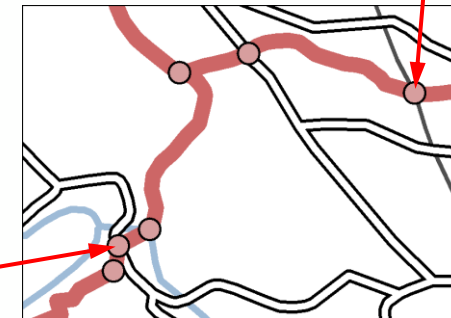
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Connecting Features

- Connecting Feature Points (CFP)
  - Serve as anchor for repeatable edge matching
    → Support and simplify process
    → Reduction of time-consuming coordination between countries
  - Not necessarily located on a vertex of the International Boundary
  - Have to be snapped properly to the International Boundary
  - If you change Connecting Features
    → Don't create new vertices on the International Boundary!

Field	Value
OBJECTID	7409
SHAPE	Point
inspireId	_EG.ELF.IB.Regional:CZ#PL.1.592
beginLifespanVersion	11.12.2012
endLifespanVersion	<null>
country	CZ#PL
featureType	RailrdL
status	approved
feedback	<null>

Field	Value
OBJECTID	6428
SHAPE	Point
inspireId	_EG.ELF.IB.Regional:CZ#DE.1.330
beginLifespanVersion	06.05.2013
endLifespanVersion	<null>
country	CZ#DE
featureType	RoadL
status	approved
feedback	<null>

Connecting Features

- Attributes of Connecting Feature Points (CFP)
  - INSPIRE attributes (inspireID, beginLifespanVersion, endLifespanVersion)
  - country: ICC of countries which are effected
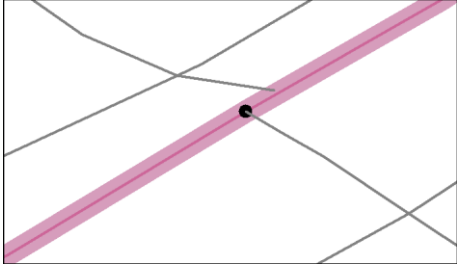 - featureType: Feature class(es) which are effected
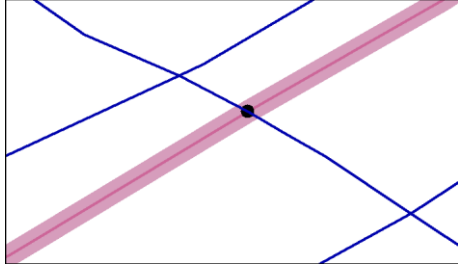 - status

Status	Meaning
1	approved
2	proposed for addition
3	proposed for suppression
4	changed
5	unsolved

  - feedback: Hints for Data Producers to consider provided by BKG

feedback
move to west
move to east
geometry RoadL FR east
DE Road not in ERM
DE control IntercC
control RoadL with border; maybe for ERM an border
control RoadL with border; maybe for ERM an border
control RoadL with border; maybe for ERM an border
control RoadL
control RailrdC
connect RoadL SK for D3
connect RoadL SI
connect RoadL RS
connect RoadL ND
connect RoadL MK

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Connecting Features

	Before edge matching	After edge matching
Usage of existing CFP:		
Need of movement of CFP:	Source: Esri, DigitalGlobe, GeoEye, Earthstar	Source: Esri, DigitalGlobe, GeoEye, Earthstar
Need for new CFP:		

E X A M P L E S

Connecting Features

- How to go on if a solution for Edge Matching is found?

Available CFP can be used	CFP has to be moved or created or CFP can be deleted

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Use CFP and everything is fine

1. Contact appropriate neighbor and discuss issue

2. Find a common solution for all involved countries

3. Send email to Production Management Team at BKG (ebrm@bkg.bund.de) and in copy the responsible Regional Coordinator
   - Email trail confirming the solution
   - FileGeodatabase with moved CFP / new CFP / deleted CFP

4. Change of CFPs will be checked and incorporated in IB Regional by BKG

5. BKG will inform Data Producers and Regional Coordinator about change

Features located on the International Boundary

- Aim
  - Stable International Boundary
    → Stable features on International Boundary with correct attributes
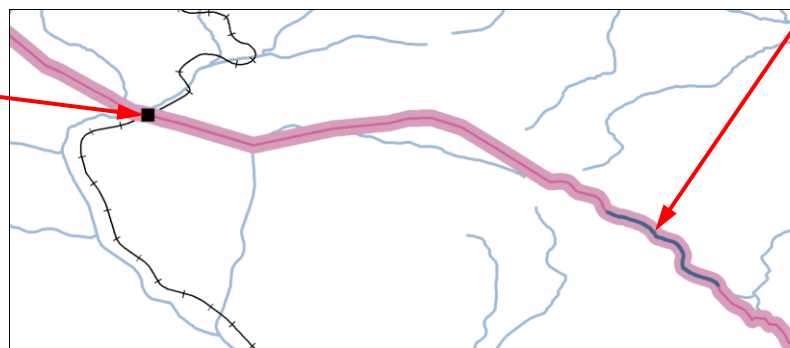 - Support EGM

- ERM_FeaturesOnBorder
  - Provided by Production Management Team at each kick-off for production
  - Feature classes affected:

Features located on the International Boundary

- Precondition: Features have to be properly edge matched
  - Agreement between neighbouring countries on a common representation of the features
  - Complete attribution
  - Features must have two ICC-Codes separated by "#"

Field	Value
OBJECTID	2
Shape	Point
FCsubtype	RailwayStation
inspireId	_EG.ERM:CUZK.F6159EC3C9794772BA11A56F718E801D
beginLifespanVersion	01.01.2007 00:00:01
F_CODE	AQ125
ICC	CZ#DE
SN	3310
TFC	Joint Railway Station
NAMN1	Železná Ruda-Alžbětín
NAMN2	Bayerisch Eisenstein
NAMA1	Zelezna Ruda-Alzbetin
NAMA2	Bayerisch Eisenstein
NLN1	CZE
NLN2	GER
TUC	General
RStationID	E.EG.RAILRDC.400001

Field	Value
OBJECTID	3427
Shape	Polyline
FCsubtype	Watercourse
inspireId	_EG.ERM:CUZK.4D40A65E7067498B9CFDCF1D6E2E814D
beginLifespanVersion	20.06.2013 18:24:06
F_CODE	BH502
ICC	CZ#DE
SN	5050
NVS	Not Navigable
HOC	Natural
HYP	Perennial/Permanent
DV	In direction
LOC	On ground surface
HydroID	E.EG.WATRCRS.400357
NHI	119900000100#5241440000000000000
NAMN1	Prášilský potok
NAMN2	Marchbach
NAMA1	Prasilsky potok
NAMA2	Marchbach
NLN1	CZE
NLN2	GER
TEN	Not part of TEN-T network
TID	Non Tidal
WCH	Fifth
WD7	1
WD8	3
LEN	3,082962
Shape_Length	0,036919

Features located on the International Boundary

- Workflow is described in ERM Edge Matching Rules, section 1.2.4

No real change of features on IB	Real change of features on IB

NMCA has to exclude such features from their update

1. NMCAs have to apply edge matching process

2. NMCAs have to inform Regional Coordinator about the agreed new solution and send new features within an extra database

3. Validation of changed features by Regional Coordinator

4. Regional Coordinator send validated features to ERM Production Management Team within an extra database

5. Production management updates the IB Regional ERM_FeaturesOnBorder dataset

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Thank you for your attention!

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