



# Interbeef – purpose and status

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Ministeriet for Fødevarer,  
Landbrug og Fiskeri

Den Europæiske  
Landbrugsfond for Udvikling  
af Landdistrikterne

Naturerhverv.dk

Danmark og EU investerer i landdistrikterne.

# Why calculate international EBV's for beef?

- Buy – Nordic beef breed populations are limited > need to get genetic material from abroad that fit breeding goal
- Sell – possibility to be exposed
- More accurate EBV's for domestic animals with foreign ancestors

Interbeef is that possibility!

- but it is not easy

## My initial vision from a Danish perspective

- Skip national evaluation – replace by Interbeef
- Get the benefits mentioned previously

Constant resources for genetic evaluation  
– is probably not the case!

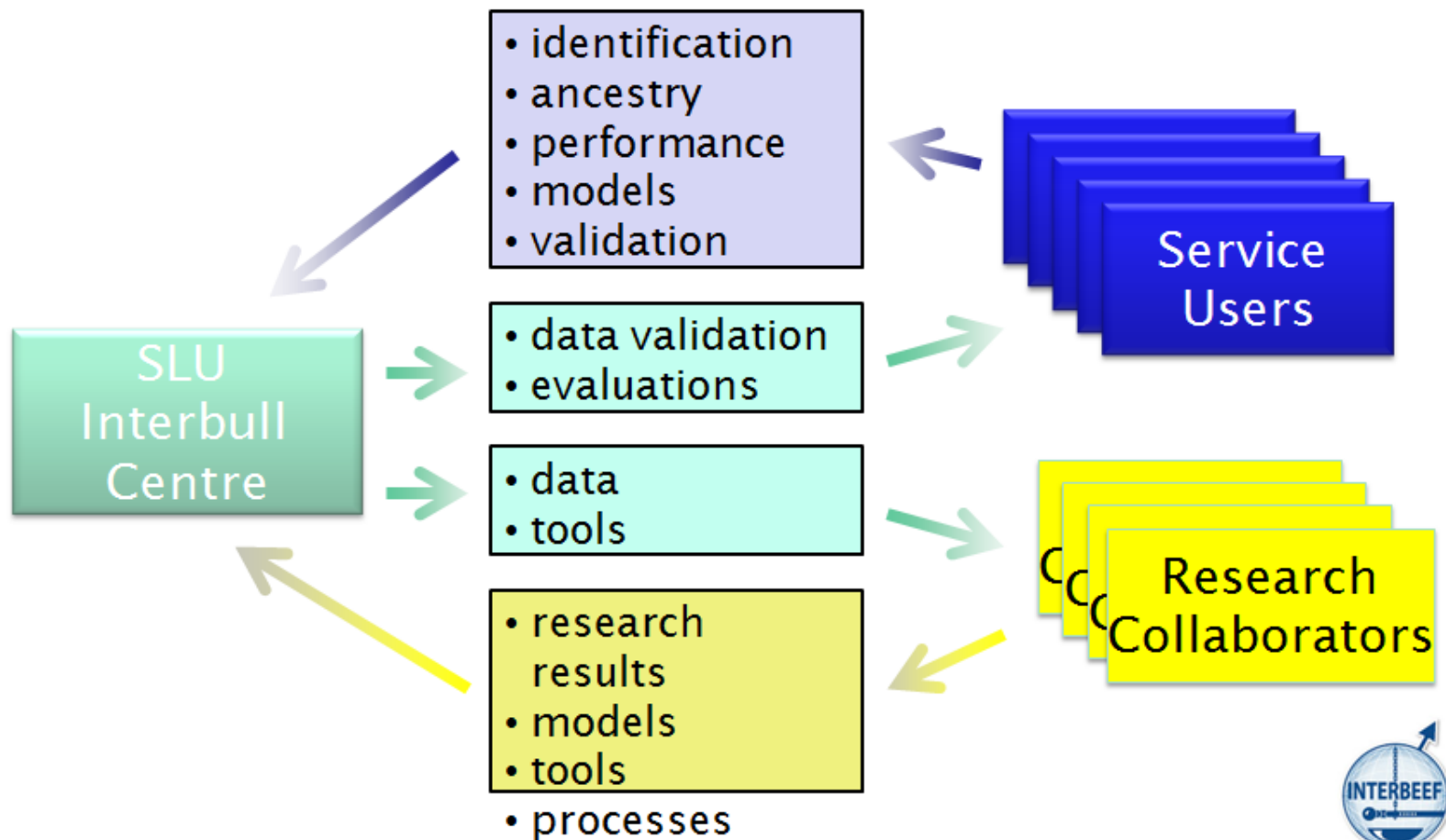
# Funtions of INTERBEEF® Working Group of ICAR

1. Forum for **sharing knowledge** on recording & genetic evaluations of beef breeds & traits.
2. Maintain **guidelines & standards** for recording & genetic evaluations.
3. Conduct **international surveys**.
4. Develop **international genetic evaluation services**.
5. Facilitate use of **genomic selection**.



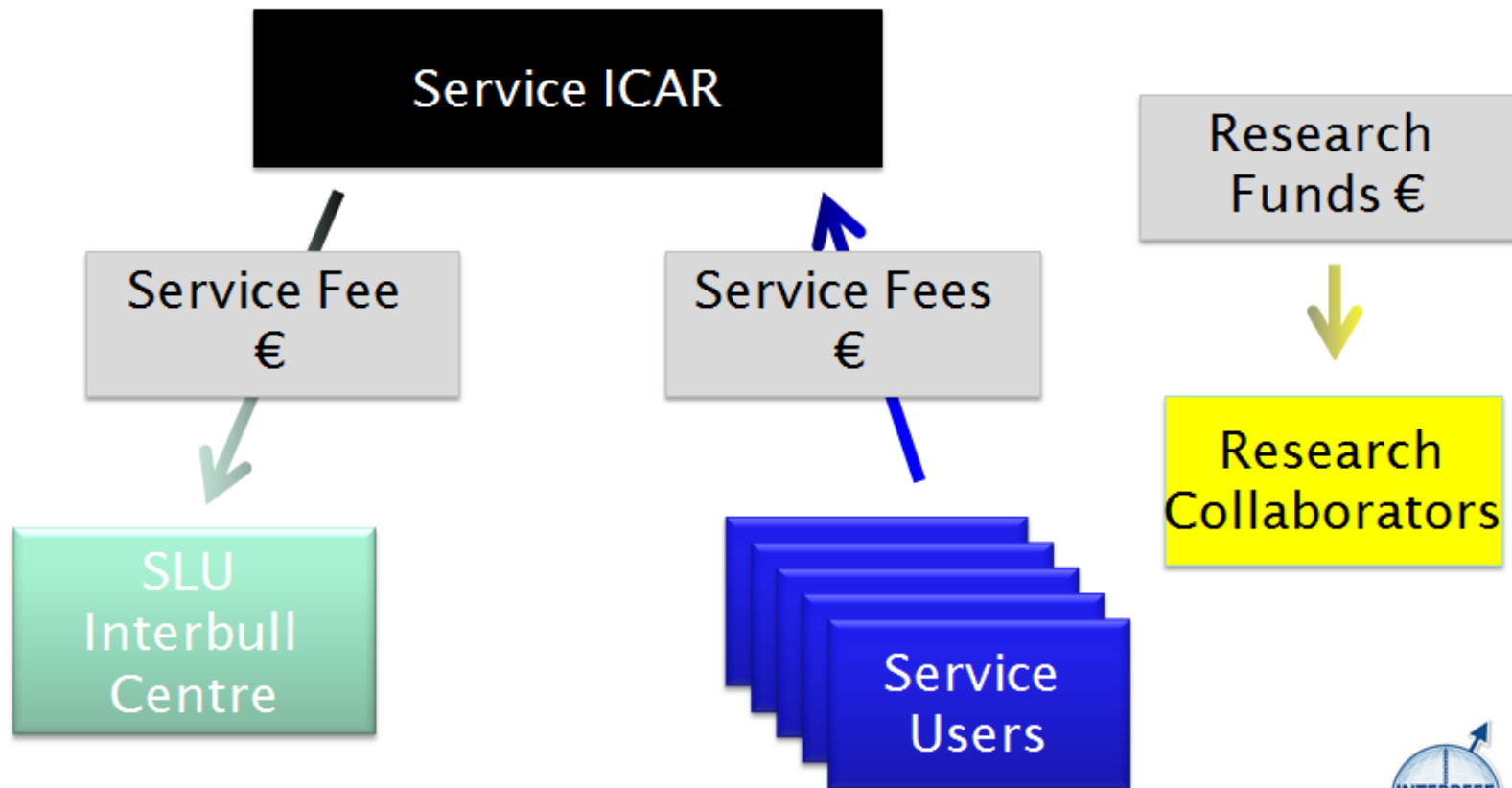
# Service Operations - Technical

[INTERBEEF® INTERNATIONAL COLLABORATION AGREEMENT]



# Service Operations - Administration

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# Service Users

## Country / Breed

CMBC - **Czech Republic** – all breeds

KCA - **Denmark** – all breeds

FABA - **Finland** – all breeds

FGE - **France** – all breeds

BDF - **Germany** – all breeds

ICBF - **Ireland** – all breeds

ADC - **Latvia** – all breeds

ARC - **South Africa** – all breeds

**Spanish** Limousin - Limousin

SDA - **Sweden** – all breeds

**Swiss** Beef Cattle Assn – all breeds

SRUC - **United Kingdom** - Limousin



# Research Collaborators

- **France** - INRA & FGE
- **Ireland** - ICBF & Teagasc
- **Czech** - Institute of Animal Science, CMBC and Czech Beef Breeders Assn
- **United Kingdom** - SRUC
- **Spain** - INIA
- **Sweden** - Interbull Centre, SLU



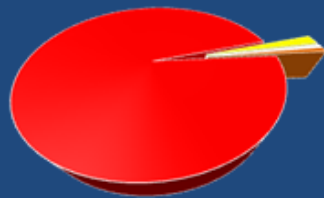




## Charolaise - number of animals with performance

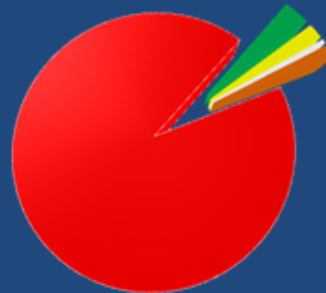


Birth weights (BWT)  
(6,488,618)



■ CZE ■ DNK  
■ FRA ■ SWE

Calving ease (CAE)  
(6,775,318)



■ CZE ■ DNK ■ FRA  
■ IRL ■ SWE

Stillbirth (STB)  
(364,635)



■ DNK ■ IRL

	CZE	DNK	FRA	IRL	SWE
BWT	40,113 0.62%	63,470 0.98%	<b>6,256,877</b> <b>96.43%</b>		128,158 1.98%
CAE	40,113 0.59%	114,093 1.68%	<b>6,251,815</b> <b>92.27%</b>	231,866 3.42%	137,431 2.03%
STB		132,769 36.41%		231,866 63.59%	

## Work plan – for INTERBEEF® includes:

- Research evaluations for
  - Calving traits
  - Carcass traits
  - Female Fertility traits
- Research on evaluations
  - For other breeds
  - For new Service Users
  - Using performance data from cross-bred animals
  - Using Genomic data

## Timeline for Interbeef

- Start in 2008
- Initial work – many obstacles!
  - Common international pedigree – cleaning national pedigree
  - Only CHA and LIM
  - One trait - weaning weight
  - Method development
- French and Irish group finished development work in 2010
  - Promising results but no functional system

## Timeline for Interbeef

- Jumpstart in 2012
  - Research work: Genetic correlations and new traits
- Expected routine evaluation for weaning weight in late 2013 - **only for LIM and CHA**

## Challenges for Interbeef

- Weak links between countries > hard to estimate reliable genetic correlations
- Slow rate of development
- Funding is critical in relation to population size

# Links between countries - Limousine

**Table 3.: Origin of sires across InterBeef countries**

		Country of 1 <sup>st</sup> reg. of sire										
		CZE	DNK	ESP	FIN	FRA	GBR	IRL	SWE	Other	% national	%FRA
Country of 1 <sup>st</sup> reg. of animal with perf.	CZE	2423	65	3		2251	1		1	178	49%	46%
	DNK		25204			7850	173		110	007	73%	23%
	ESP			12655		18818				0	40%	60%
	FIN		1147		876	870	195		240	90	78%	8%
	FRA		285	101		1668080	393	7	6	862	100%	100%
	GBR					24982	81842	96		0	76%	23%
	IRL		10			8243	1079	551		0	37%	56%
	SWE		1143		156	63			13339	252	86%	4%

### 3.2. Where maternal grand-sire come from?

**Table 4.: Origin of maternal grand-sires across InterBeef countries**

		Country of 1 <sup>st</sup> reg. of maternal grand-sire										
		CZE	DNK	ESP	FIN	FRA	GBR	IRL	SWE	Other	% national	%FRA
Country of 1 <sup>st</sup> reg. of animal with perf.	CZE	1318	13			3409				182	27%	69%
	DNK		23099			9335	426	3	348	1133	67%	27%
	ESP			11894		19562	3			14	38%	62%
	FIN		1383		7926	1006	611		261	131	70%	9%
	FRA		95	27		1669290	401	9		1034	100%	100%
	GBR					35074	72628	94		4	67%	33%
	IRL		7			10950	305	3577		8	24%	74%
	SWE		1573		124	1031			12236	556	79%	7%

## Positive development for Interbeef

- More countries participation
- Many research partners funding and doing research
- First traits is soon to be published

## Challenges for Nordic countries

- Proposed fee structure today: 21.000 euro yearly from DK, SE, FI, NO – not acceptable!
- We propose to merge to one country
  - Assume Rg of one (one for dairy today)
  - Need for harmonization – requires work
  - Funding reduced to 11.000 euro
- How to use EBV's from Interbeef?



# What do you want? - with the present limitations

- Interbeef for all traits and breeds
  - Time schedule is uncertain
  - What about small breeds?
- Nordic evaluation
  - What are benefits?
  - Large investment
- National evaluations

What do we want and how much will we invest?



# Nordic genetic evaluation

Common Nordic:

- Pedigree file
- Data files with records – standardization needed?
- Genetic parameters
- Evaluation model – harmonization needed
- Trait definition – harmonization needed?

# Nordic genetic evaluation - prerequisite

- Willingness to abandon national evaluation – compromise!
- Financial resources and manpower