



Celle



Mariensee



Braunschweig



Friedrich-Loeffler-Institut Federal Research Institute for Animal Health



Insel Riems



Tübingen



Wusterhausen



Jena



1910 – 2010



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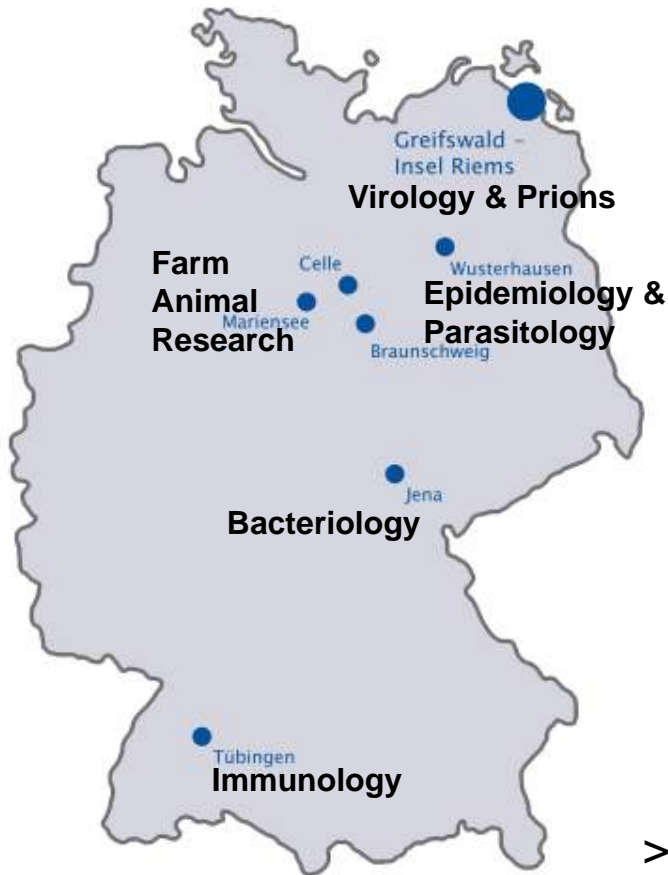
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FLI

Bundesforschungsinstitut für Tiergesundheit
Federal Research Institute for Animal Health

Friedrich-Loeffler-Institut – Federal Research Institute for Animal Health

Independent higher federal authority, German Federal Ministry of Food, Agriculture and Consumer Protection
11 Institutes und 1 Department at 7 locations



Headquarters: Greifswald – Isle of Riems

Institute of Molecular Biology (IMB)

Institute of Infectology (IMED)

Institute of Novel and Emerging Infectious Diseases (INNT)

Institute of Diagnostic Virology (IVD)

Department of Experimental Animal Husbandry and Biorisk Management

Working Group Biomathematics

Working Group International Animal Health

Junior Research Group Wildlife Diseases

FLI - Celle

Institute of Animal Welfare and Animal Husbandry (ITT)

FLI - Mariensee

Institute of Farm Animal Genetics (ING)

FLI - Braunschweig

Institute of Animal Nutrition (ITE)

FLI - Wusterhausen

Institute of Epidemiology (IfE)

FLI - Tübingen

Institute of Immunology (IfI)

FLI - Jena

Institute of Bacterial Infections and Zoonosis (IBIZ)

Institute of Molecular Pathogenesis (IMP)

>75% of staff involved in infectious disease research

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Animal Disease Act (§4)

- (1) The Friedrich-Loeffler-Institut is an independent higher Federal authority under the auspices of the Federal Ministry...
- (2) The Friedrich-Loeffler-Institutparticipates in
 1. examination of animals or animal products for export or import
 2. epidemiological analyses in case of outbreaks of infectious animal diseases

....

In addition, the Friedrich-Loeffler-Institut is active

1. in **research**
 - a) **on infectious diseases of animals**
 - b) on animal nutrition, conventional animal husbandry, animal welfare and animal breeding
2. in the function
 - a) as **national reference laboratory for notifiable animal diseases...**

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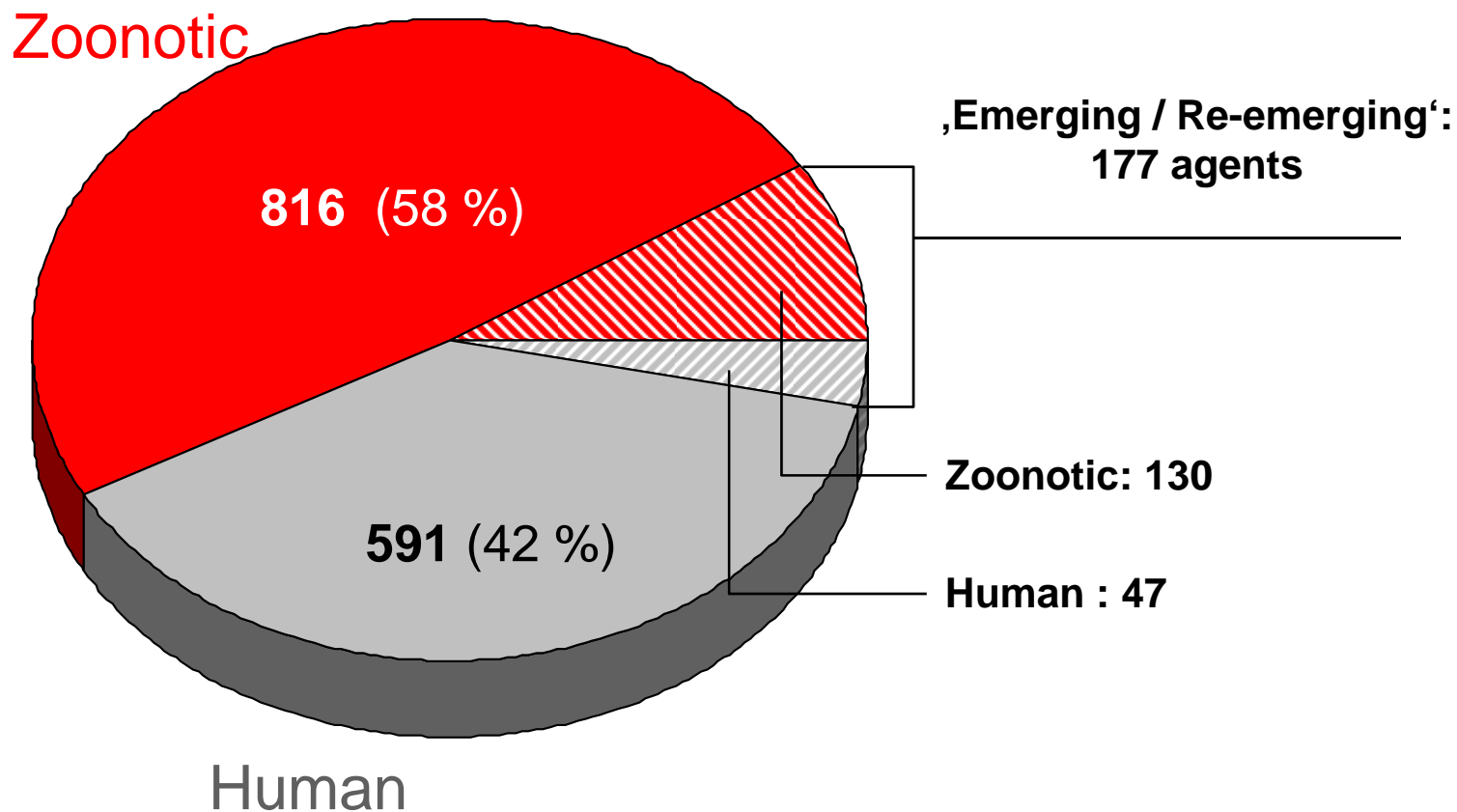
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Zoonoses: the ,One Health' approach

Known infectious agents pathogenic for humans: **1.407**



Woolhouse & Gowtage-Sequeria, 2005

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FLI acts as National Reference Laboratory for more than 75 notifiable and reportable animal diseases:

Viral diseases

Avian Influenza
Crimean-Congo Hemorrhagic Fever
Ebola Virus Infection
Equine Encephalomyelitis (all forms)
Hantavirus
Japanese Encephalitis
Monkeypox
Nipah/Hendra Virus Infection
Rabies
Rift Valley Fever
West-Nile-Virus

African Horse Sickness (AHS)
African Swine Fever (ASF)
Aujeszky's Disease (AD)
Bee diseases: 3 notifiable diseases
Bluetongue Disease (BTV)
Bov. Herpesvirus Type 1 (all forms)
Bovine Viral Diarrhea (BVD)
Crustacean diseases (including Taura
Syndrom, Whitespot, Yellowhead)

Parasitic diseases

Echinococcosis
Toxoplasmosis
Bovine Trichomoniasis
Dourine

Fish diseases: 7 diseases (ISA, EHN,
VHS, IHN, KHV, EUS, IPN)
Maedi / Visna & CAE
Enzootic Bovine Leucosis
Epizootic Hemorrhagic Disease (EHD)
Equine Infectious Anemia (EIA)
Equine Viral Arteritis (EVA)
Foot- and Mouth-Disease (FMD)
Infectious Laryngotracheitis (ILT)
Lumpy-skin-Disease
Mollusc diseases (including 6
reportable diseases)
Newcastle Disease
Peste des Petits Ruminants
Rinderpest
Sheep and Goat Pox
Swine Fever (CSF)
Swine Vesicular Disease (SVD)
Teschen Disease
Vesicular Stomatitis

Prion diseases

Transmissible Spongiform
Encephalopathies (incl. BSE, scrapie)

Bacterial diseases

Anthrax
Bovine Salmonellosis
Bovine Tuberculosis (*M. bovis* & *M. caprae*)
Brucellosis
Campylobacteriosis (thermophilic
Campylobacter)
Chlamydial Infections of Birds and Sheep
Glanders
Q Fever
Tularemia
Verotoxin-forming *E. coli*

Blackleg
Bovine Genital Campylobacteriosis
Bovine Pleuropneumonia
Contagious Equine Metritis
Paratuberculosis

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National Research Platform for Zoonoses

Standort	Standortleiter	Wissenschaftliche Referentin	Sachbearbeiterin	Informations techniker
Münster 	 Stephan Ludwig	 Gerlinde Benninger	 Elisabeth Schabbler	 Hannes Vogt
Insel Riems FLI	 Martin Groschup	 Anke Wiethölder	 Claudia Nittke	
Berlin TMF	 Sebastian C. Semler	 Ilia Semmler	 Nadine Sept	

FLI: involved in 13 BMBF-funded Zoonoses Consortia

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EU – Projects (22/26 on infectious diseases)



ERINHA: European Research Infrastructure on Highly Pathogenic Agents

NADIR: Network of Animal Disease Infectiology Research Facilities

EPIZONE: Network of Excellence for Epizootic Disease Diagnosis and Control

EDENext: Biology and Control of Vector Borne Diseases in Europe
(based on: EDEN - Emerging Diseases in the European Environment)

EMPERIE: European Management Platform for Emerging and Re-Emerging Infectious Disease Entities

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OIE Reference Laboratories

Avian Influenza

Bovine Herpesvirus 1 Infection

Brucellosis

Chlamydial Infections of Birds and
Sheep

Enzootic Bovine Leucosis

Newcastle Disease

Glanders

Rabies

**Collaborating Centre
for Zoonoses in Europe**



**WHO Collaborating Centre for
Rabies Surveillance and Research**

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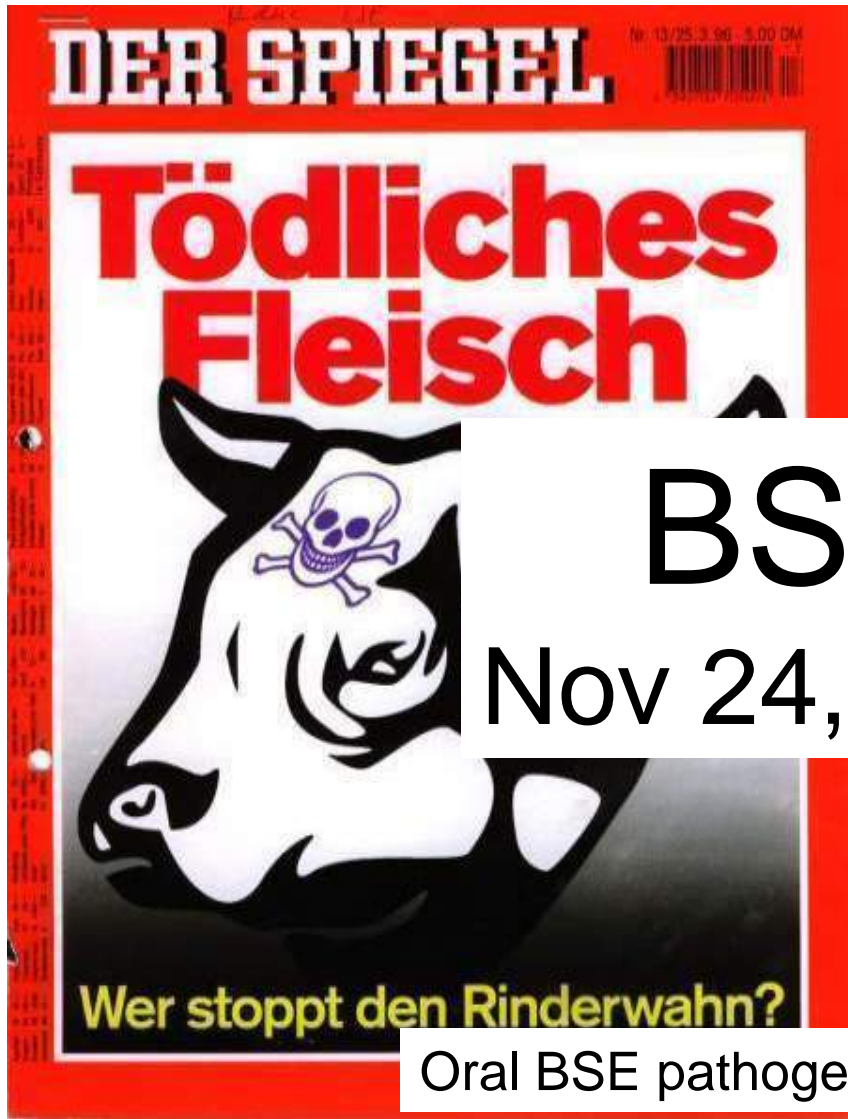


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BSE

Nov 24, 2000

TIERSEUCHEN Auf der Insel Riems sollen die Rätsel des Rinderwahnsinns gelöst werden. Ein Besuch im weltweit ältesten Virusforschungsinstitut.



Oral BSE pathogenesis study

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Todesvirus auf Rügen nachgewiesen

- Schwäne und Habicht mit Vogelgrippe infiziert
- Seehöfer: Lage in Deutschland ist sehr ernst
- MV verhängt Freilandverbot
- Schutz- und Sperrzonen auf der Insel eingerichtet

Zeitungstext: ... Die Insel Rügen ist seit Mitte der 1990er Jahre vom Vogelgrippevirus H5N1 betroffen. ... Die Seehöfer sind die ersten, die das Virus auf der Insel nachgewiesen haben. ... Die Landesregierung hat eine Sperrzone eingerichtet, um die Ausbreitung des Virus zu verhindern. ...



Das Sterben der Schwäne

Nach der Diagnose der Vogelgrippe auf Rügen

Zeitgeschehen

28. FEBRUAR 2006

Die Insel Riems

Die Insel Riem ist seit Mitte der 1990er Jahre vom Vogelgrippevirus H5N1 betroffen. ... Die Landesregierung hat eine Sperrzone eingerichtet, um die Ausbreitung des Virus zu verhindern. ...

Jagd auf das Killer-Virus

Die Hochseerentwässerung untersucht Forscher H5N1





H5N1
Feb 14, 2006

Pathogenesis in cats, dogs, cattle, wild boar, falcons, songbirds, swans, turkeys, chickens

Molecular analysis of virulence factors





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Blauzungkrankheit

Aus Afrika in den deutschen Stall



Bluetongue

Aug 26, 2006

Blauzungkrankheit

Eine Woche nach Ausbruch der **Blauzungkrankheit** bei Tieren in

Diagnosis (real-time PCR),

Epidemiology,

Vaccination Field Study

afrikanischen Ländern südlich der Sahara zu stammen. Wie die für Menschen ungefährliche Tierkrankheit nach Europa gelangen konnte, sei noch völlig unklar.

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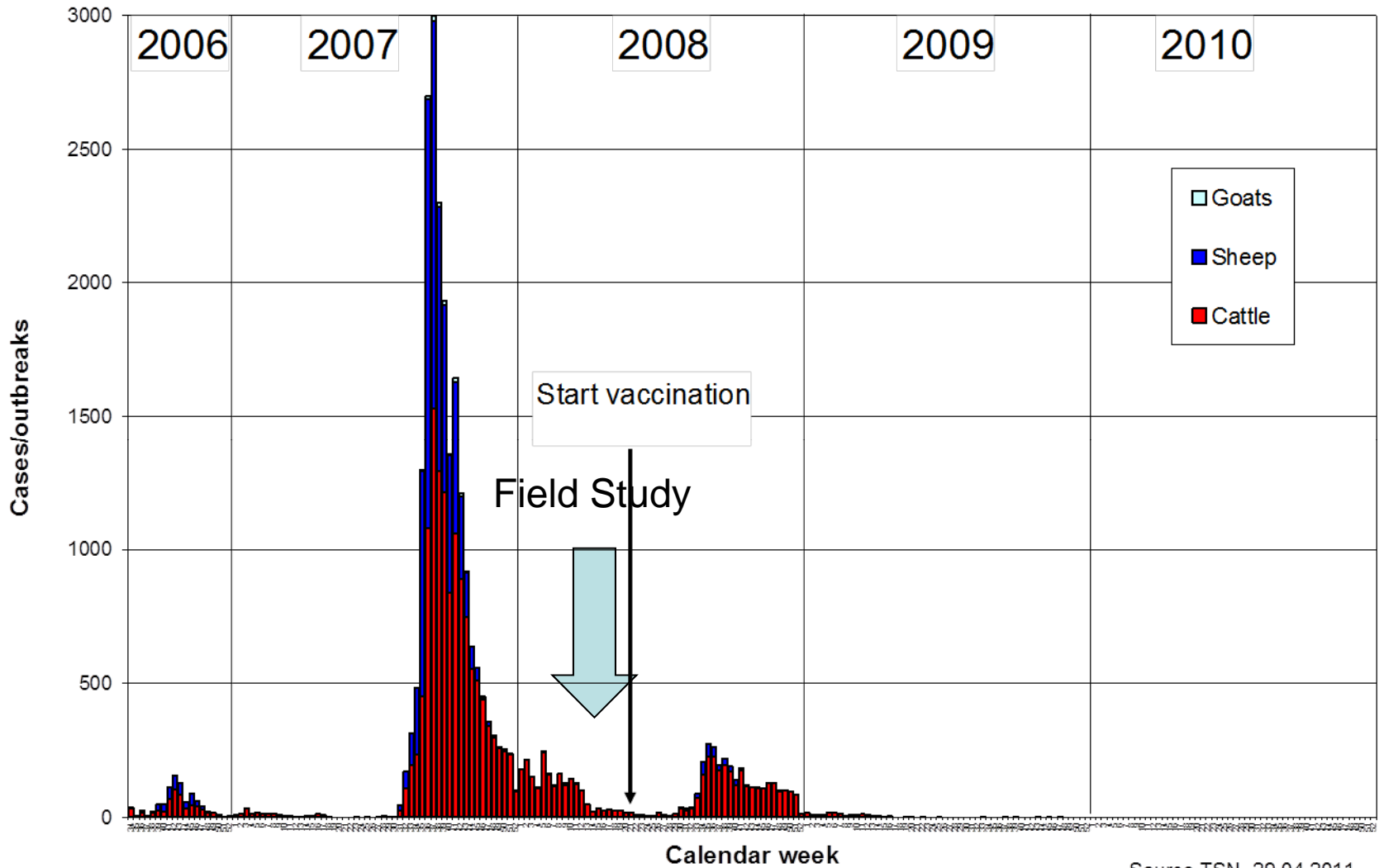
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BTV-8 Infections in Germany



Source TSN, 29.04.2011

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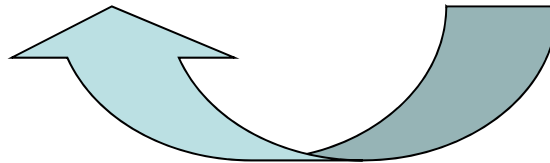
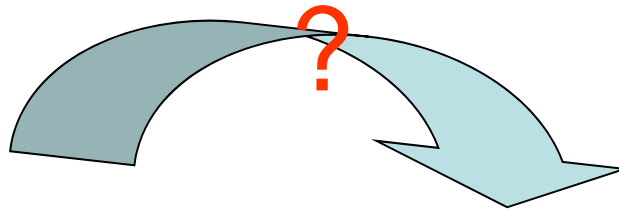


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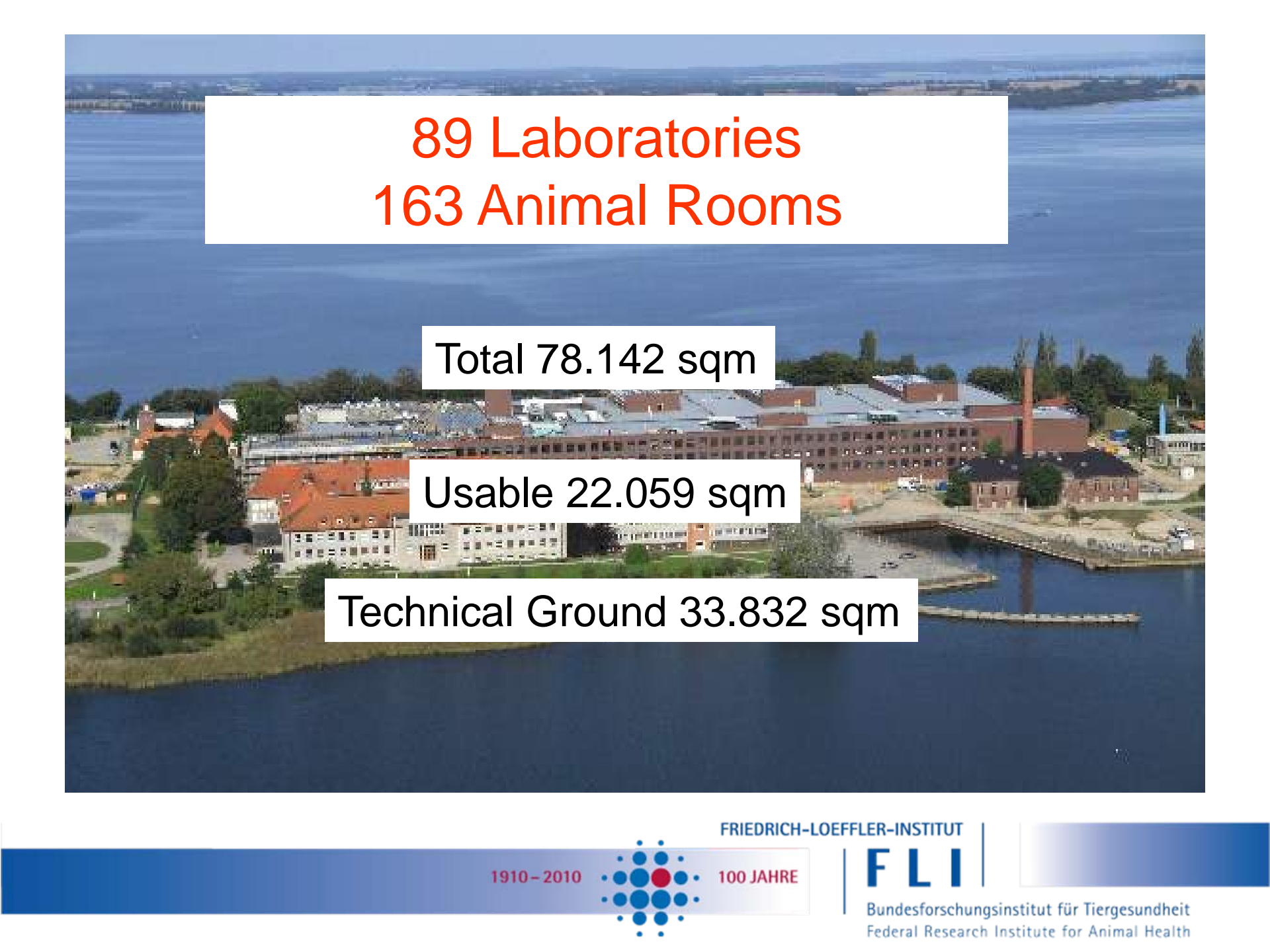


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89 Laboratories
163 Animal Rooms

Total 78.142 sqm

Usable 22.059 sqm

Technical Ground 33.832 sqm

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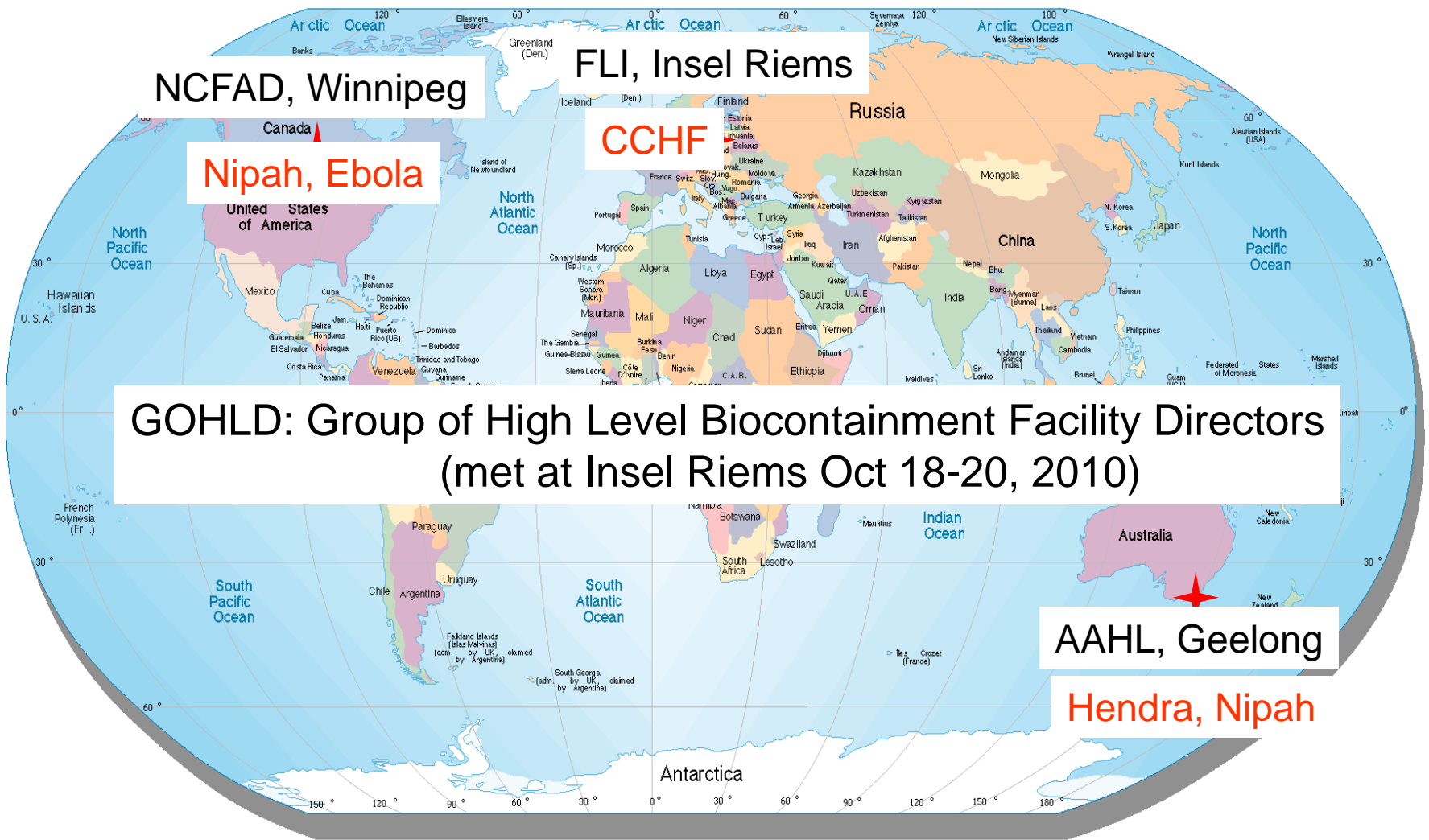
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BSL4 Large Animal Facilities (FLI operational 2012/2013)



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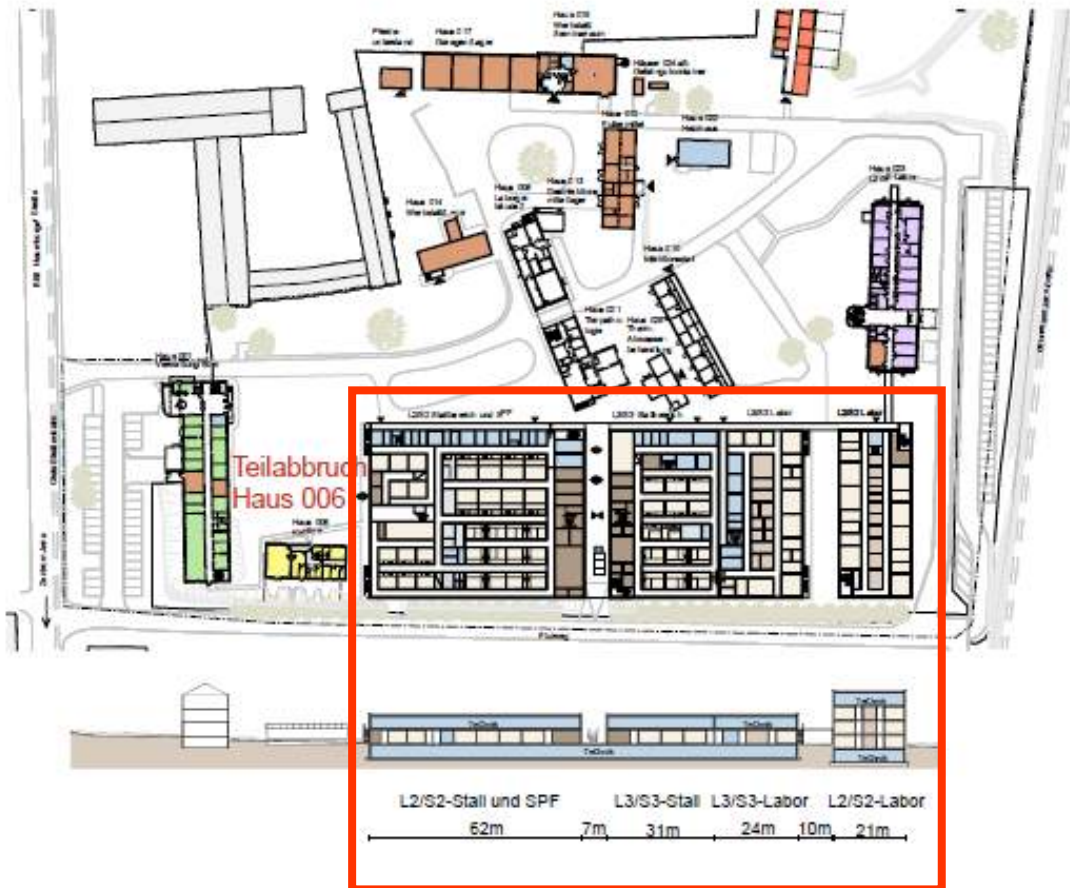
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BSL4-Labor

New Laboratory and Animal Facilities in Jena (planned)



Total: 8.855 sqm
New: 5.274 sqm

Con. LA:	279
SPF SA:	286
BSL-2 Lab:	1654
BSL-2 LA/SA:	1563
BSL-3 Lab:	649
BSL-3 SA/LA:	843

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Thank you for your attention



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