



# European Raptor Biomonitoring Facility

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# The challenge

- Environmental contaminants:  
€ multi-bn costs to human and wildlife health
- EU objective (7EAP) - a non-toxic environment
- EU chemicals regulations – assess risk, impose risk mitigation measures (restrict/ban)
- Need biomonitoring data to:
  - enhance chemical risk assessment
  - enhance assessment of effectiveness of regulations
  - provide early warning of emerging contaminant problems



# Why 'ERBFacility'

- 'Facility' (from Latin *facilis* – 'easy')
  - not an infrastructure, but a 'provision' or 'package' of key elements
- 3 key elements:
  - European Raptor **Monitoring Scheme** (ERBioMS)
  - *Distributed* European Raptor **Specimen Bank** (ERSpeB)
  - European Raptor **Sampling Programme** (ERSamp)





# The goal

- Underpin generation and use of raptor biomonitoring for EU regulatory applications
- Use raptors as sentinel species to answer:
  1. What are the environmental risks of specific chemicals?
  2. Are chemicals regulations effective in reducing environmental exposure to contaminants?
  3. Are there emerging contaminant problems requiring remedial action?
- Thereby:
  - contribute to a non-toxic environment
  - Reduce contaminant toll on human and wildlife health



# The three 'Arenas'

- **Analysis**
  - labs, ecotoxicologists
- **Collections**
  - NHMs, ESBs, other collections
- **Field**
  - field ornithologists/ecologists, raptor conservationists





# Capacity Building Objectives

**R1 Analysis Arena:** assess current analytical capacities, develop framework for **ERBioMS**



**R2 Collections Arena:** assess current collection capacities, develop framework and protocols for distributed **ERSpeB**



**R3 Field Arena:** assess current field capacities, develop framework, standards and protocols for **ERSamP**





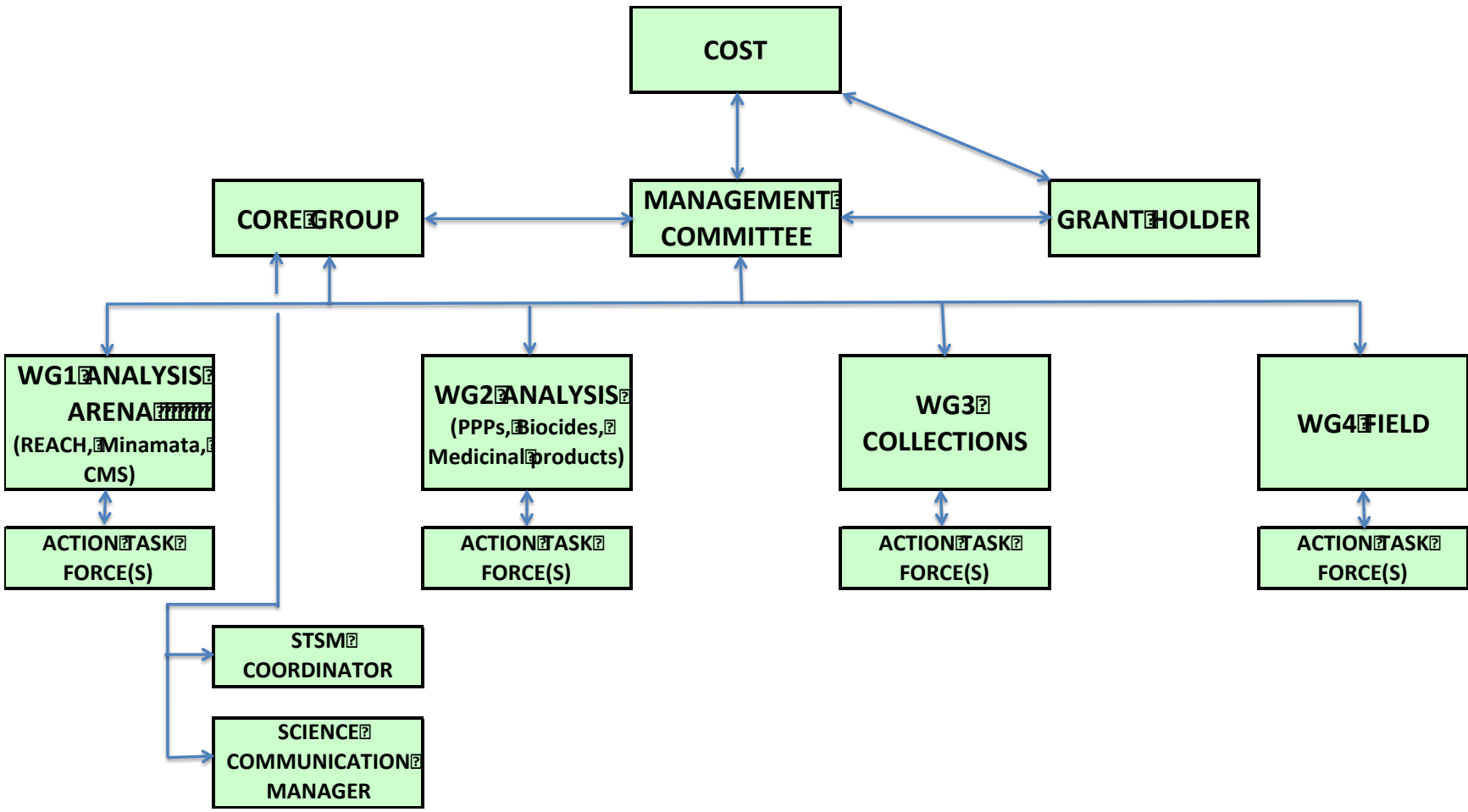
# Research Coordination Objectives

- **C1 - Analysis arena**
  - Collaborative work on ERBioMS
  - Piloting joint assessment and reporting
  - Developing guidance on integrating reports with regulatory assessments
- **C2 - Collections arena**
  - Collaborative work on ERSpeB
  - Constructing meta-database of samples/data
  - Stimulating expansion of raptor collections
- **C3 - Field arena**
  - Collaborative work on ERSamP
  - Stimulating/harmonising collection of raptor samples and contextual data
  - Developing and field-testing sampling framework, standards and protocols





# Management Structure



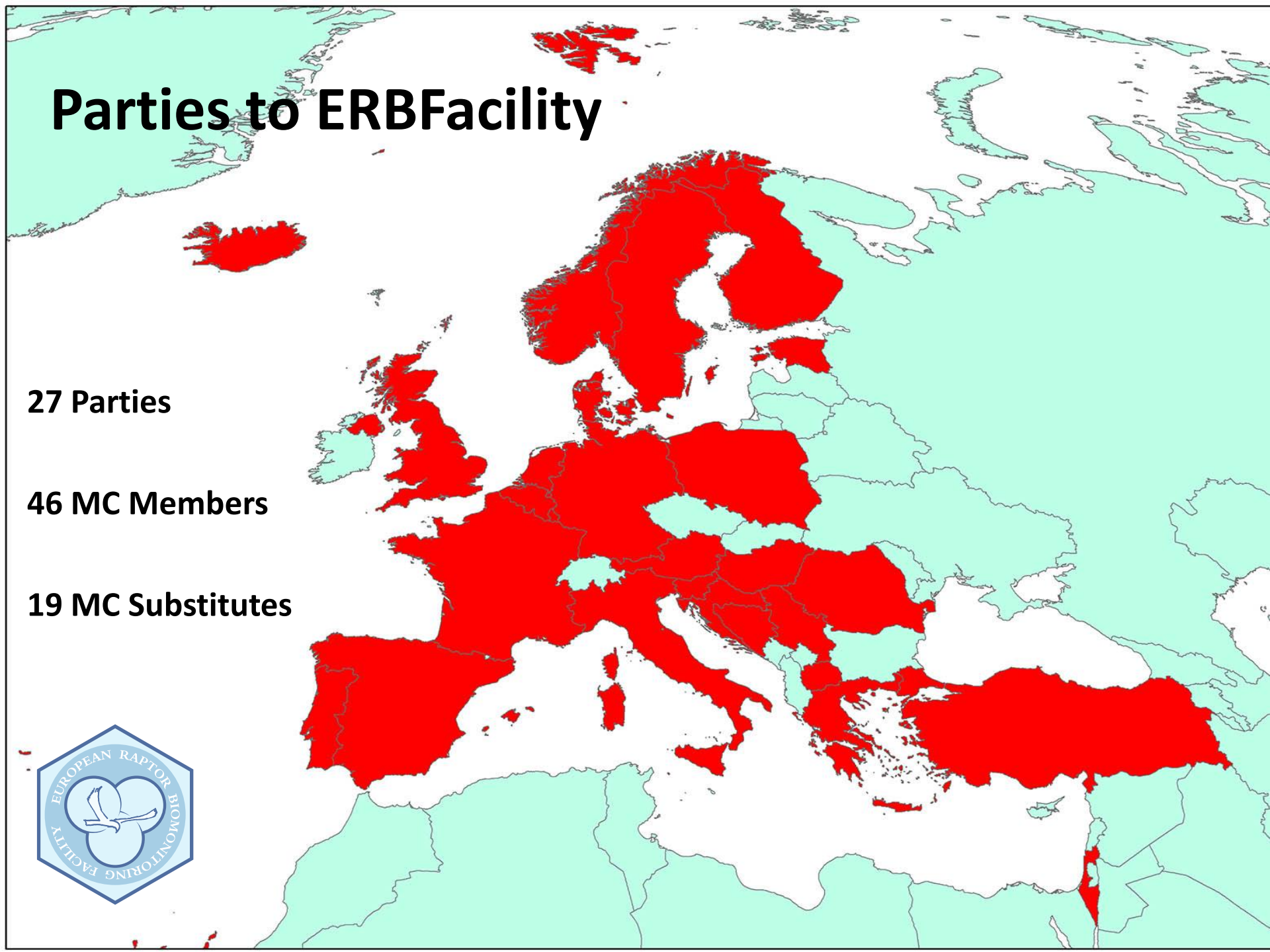


# Parties to ERB Facility

27 Parties

46 MC Members

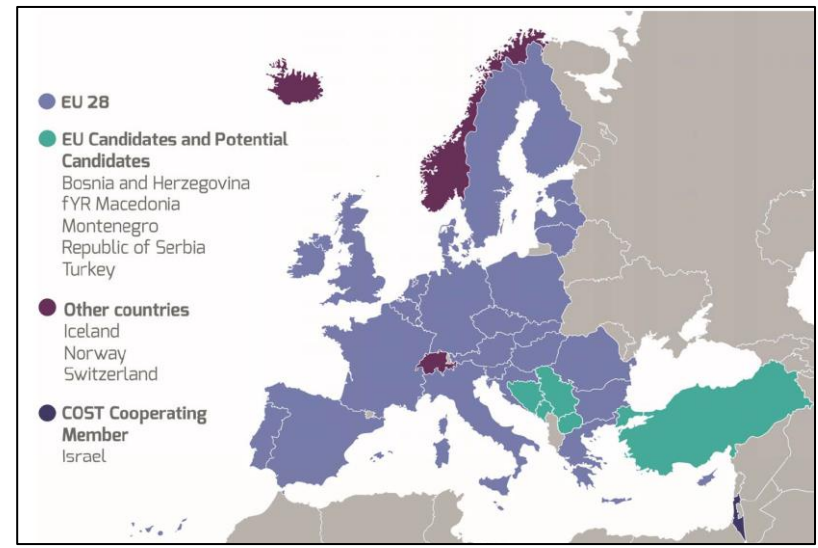
19 MC Substitutes





# COST policies

- Geographical coverage/ICT countries
  - 27 of 37 COST countries
  - 11 of 27 Parties ICT (40%)
- Gender balance
  - Only 12 of 46 Members female
  - 2 of 4 WG Leads female
- Early Career Investigators
  - Several ECIs on MC





# Relations to existing efforts



[EURAPMON](#) – monitoring for and with raptors



[HBM4EU](#) – human biomonitoring



[NORMAN](#) – monitoring of emerging substances



[IPChem](#) – European platform for chemical monitoring

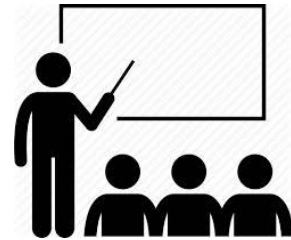


[GBIF](#) – Global biodiversity information facility



# COST Activities

- **Meetings**
  - Management Committee & Core Group
  - General and WG meetings
  - Dissemination meetings
- **Short-term scientific missions**
  - 5-90 days
  - ECI STSMs: 91-180 days
- **Training schools**
  - Joint WG 1&2
  - Joint WG 3&4
- **Dissemination and communication activities**





# Main Deliverables

- **WGs 1 & 2**
  - **ERBioMS technical specs**
  - Papers – lab analyses capacities, ERBioMS framework
  - Pilot reports – selected substances
  - Proof of concept, guidance for integration with regulatory processes
- **WG3**
  - **ERSpeB technical specs**
  - Meta-database of samples & linked data
  - Guidance – use of collections for contaminant monitoring
  - Papers – collections/constraints, ERSpeB framework
- **WG4**
  - **ERSamP technical specs**
  - Best practice guidance, protocols for sampling
  - Guidance – volunteer recruitment
  - Reports – proof of concept, network of collaborating organisations



# Expected Impact

- **Analysis arena**
  - European capability for pan-European assessment of contaminant exposure
  - Pan-European consensus on priority species/samples
  - Clarity on integration of these assessments with regulatory processes
- **Collections arena**
  - New distributed ERSpeB
  - Enhanced access to samples and related data
- **Field arena**
  - New European approach to collection of samples
  - Enhanced sampling capabilities

### Extra funding for ERBFacility

ERBFacility has been awarded an additional €48000 for the current Grant Period 2



[READ MORE](#)

## Welcome

Welcome to the European Raptor Biomonitoring Facility COST Action (CA16224)

We are an open network of researchers and practitioners working towards coordinated Europe-wide monitoring of contaminants in raptors (birds of prey) with a view to supporting the implementation of EU chemicals regulations and thereby reducing chemical risks to raptor themselves, to the wider environment and to human health.

If you are interested to join us, please see the [Join page](#).



### Latest Tweets

ERBFacility is an open network working towards coordinated Europe-wide monitoring of contaminants in raptors with a view to

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Fortcoming Events
<p><b>Prioritisation of Species for Raptor Biomonitoring</b></p> <p>4 February 2019 - 14:00</p>
<p><b>Best Practice Raptor Sampling the Field</b></p> <p>8 February 2019 - 14:00</p>
<p><b>ERBFacility Second General Meeting</b></p> <p>5 March 2019 - 09:00</p>
<p><b>Third Management Committee Meeting</b></p> <p>7 March 2019 - 09:30</p>
<p><b>WG4 Meeting</b></p> <p>8 March 2019 - 09:00</p>
<p><b>Meeting the needs of bCMA and bNSA</b></p> <p>8 April 2019 - 13:30</p>

Latest News
<p><b>Successful WG3 Meeting in Brussels</b></p> <p>20 January 2019</p>
<p><b>Additional €48000 budget approved for ERBFacility</b></p> <p>4 December 2018</p>
<p><b>LIFE APKX: new €3m project to demonstrate use of apex predators for EU chemicals management</b></p> <p>1 September 2018</p>
<p><b>ERBFacility 2018 STSMs</b></p> <p>15 August 2018</p>
<p><b>ERBFacility Management Committee approves CI2 WI5</b></p> <p>12 June 2018</p>
<p><b>First ERBFacility General Meeting held</b></p> <p>1 March 2018</p>

## About

### Why raptors?

Raptors are particularly suitable for monitoring persistent, bio-accumulative and toxic (PBT) substances because they are widespread, typically long-lived apex predators, which integrate contaminant exposure over time, over large areas and across a range of specialist and generalist food chains, are particularly sensitive to environmental contaminants and among the first organisms to exhibit readily observable responses.



Examples of contaminant problems revealed by raptors include heavy metal-induced immune system impairment, polychlorinated-biphenyl (PCB) induced impacts on reproduction toxicity associated with lead shot in game and toxicity associated with non-steroidal anti-inflammatory drugs (NSAIDs).

### Who is involved?

ERBFacility involves researchers working with analytical laboratories, curators of raptor collections in museums, specimen banks and research institutions, and field workers involved in raptor monitoring and conservation. We call these respectively the 'Analysis Arena', the 'Collections Arena' and the 'Field Arena'.

See [Governance](#) for details of who is involved.

### What will ERBFacility do?

ERBFacility will underpin next generation biomonitoring in Europe by delivering complementary frameworks for a European Raptor Biomonitoring Scheme, a distributed European Raptor Specimen Bank and European Raptor Sampling Programme. The database of species, harmonised standards and protocols for uses and sampling, best practice and quality assurance, and training and capacity building for researchers and field workers.

- Is EU chemicals legislation effective in reducing environmental exposure to contaminants in Europe?
- What are the environmental risks of specific chemicals? and
- Are there emerging contaminant problems needing remedial action?

In this way, ERBFacility will improve effectiveness evaluation, risk assessment and early warning in relation to regulation of priority substances, plant protection products, biocides, veterinary products and heavy metals.

ERBFacility is timely and relevant given the shift in chemicals regulation from national to EU level and EU policy for a non-toxic environment. ERBFacility fills a key gap in wildlife biomonitoring and complements recent European developments in human biomonitoring.

See [Aim and Objectives](#) for further information.

### What raptor samples are used?

Biomonitoring involves no harm to raptors. It makes use of existing specimens and samples in environmental specimen banks, natural history museums and other collections. These derive from birds found dead in the wild. Where samples from live wild birds are needed, this involves non-invasive sampling methods (e.g. collecting feathers from nests) and is done under relevant permits, typically during ringing to minimise disturbance.

MoU

## Latest News

### Successful WG8 Meeting in Brussels

12 December 2018

WG3 (Collections Arena) convened a successful meeting in Brussels on 10-11 December 2018 which addressed the Review of Raptor Collections across Europe, and considered the scope of the planned European Raptor Specimen Bank. A meeting report is in preparation.

See [Meetings and Events](#), [Past Meetings](#), for further information.

[READ MORE](#)

### Second General Meeting and Third Management Committee Meeting dates and venue confirmed

20 January 2019

The Second ERBFacility General Meeting and the Third Management Committee Meeting will be held at La Specola Museum, Florence, Italy from 5-7 March 2019. Please see the [Meetings](#) page for more details.

[READ MORE](#)

### Additional €48000 budget approved for ERBFacility

4 December 2018

The COST Association today approved an amendment to the Work Programme and Budget for ERBFacility, providing an additional c. €48,000 to the Action for the current Grant Period 2 (to and April 2019). This will permit more participants to attend the planned meetings in this Period.

[READ MORE](#)

### LIFE APKX: new €3m project to demonstrate use of apex predators for EU chemicals management

1 September 2018

A number of ERBFacility participants are involved in a new project funded by LIFE, the EU's dedicated funding instrument for the environment.

LIFE APKX is part-funded by ERBFacility and the precursor [EUHAIMON](#) project and will demonstrate biomonitoring using apex predators (including raptors) in support of EU chemicals legislation.

[READ MORE](#)

### ERBFacility 2018 STSMs

20 January 2019

ERBFacility published its 2018 Call for STSMs in August 2018 with a deadline for submissions in September 2018. The Call was circulated widely by email to all Management Committee members and to other participants in the first General Meeting (Cluded Real, February 2018) with a request to forward to all interested parties.

Seven STSMs were awarded as a result of the Call, three in the Analysis Arena (WG6 1 and 2), one in the Collections Arena (WG2) and three in the Field Arena (WG4). Details of the missions will be posted shortly to this website.

[READ MORE](#)



# MISSIONS TO 30 APRIL 2019

(end of Grant Period 2)

## WG3

- **Assessment of the extent of existing raptor collections in Europe** – Gloria Ramello, Museo Civico di Storia Naturale, Carmagnola, Italy - hosted by René Dekker, Naturalis Biodiversity Center, Netherlands – Oct 2018 (1 month)

## WG1&2

- **Review of existing monitoring data for lead contamination in raptors in Europe** – Laura Monclús Aglada, Autonomous University of Barcelona, Spain – hosted by Oliver Krone, Leibniz Institute for Zoo and Wildlife Research, Germany – Oct-Nov 2018 (2 weeks)
- **Review of presence, concentrations and bio-analytical methods for emerging and legacy organic contaminants in raptors** – Soledad Gonzalez Rubio, University of Córdoba, Spain – hosted by Veerle Jaspers, Norwegian University of Science & Technology, Trondheim, Norway – Oct-Dec 2018 (3 months)
- **Review of the detection of veterinary pharmaceuticals in avian scavengers** – Marta Herrero Villar, IREC, University of Castilla La Mancha, Spain – hosted by Mark Taggart, Environmental Research Institute, Caithness, UK, Jan-Apr 2019 (3 months)





# MISSIONS TO 30 APRIL 2019

(end of Grant Period 2)

## WG4

- **Review of constraints for collection and sharing of raptor samples in Europe** – **Maria Dulsat**, IDAEA-CSIC Barcelona, Spain – hosted by **Rui Lourenco**, University of Evora, Portugal - dates (75 days)
- **Review of ringing effort in Europe** – **Abigail Maiden**, Northern Ireland Raptor Study Group – hosted by **Jari Valkama**, Finnish Museum of Natural History, Helsinki – Jan 2019 (10 days)
- **Review of protocols to inform best practice guidance for peregrine sampling** – **Lucie Michel**, University of Giessen, Germany – hosted by **Giacomo dell’Omo**, Ornis Italica, Rome, Italy – Jan-Apr 2019 (ECI) (3 months)





# MEETINGS TO 30 APRIL 2019

(end of Grant Period 2)

- **10-11 Dec 2018: WG3 workshop** – Review of raptor collections, ERSpeB Framework - Royal Belgian Institute of Natural Sciences, Brussels (c. 18 participants)
- **4-6 Feb 2019: Joint WG1, WG2 WG3 & WG4 workshop** – Developing the scope for pan-European monitoring of contaminants in raptors: prioritisation of species and sample types - Hotel Metropolitan, Thessaloniki, Greece (c. 25 participants)
- **6-8 Feb 2019: WG4 workshop** – Best practice guidance for collecting raptor samples and contextual data - Hotel Metropolitan, Thessaloniki, Greece (c. 35 participants)
- **5-6 Mar 2019, 2<sup>nd</sup> ERB Facility General Meeting** - Museo La Specola, Florence, Italy (c. 60 participants)
- **7 Mar 2019: 3<sup>rd</sup> ERB Facility Management Committee Meeting** – Museo La Specola, Florence, Italy (c. 50 participants)
- **8 Mar 2019: WG4 workshop** – Topic to be finalised – Museo La Specola, Florence, Italy (c. 15 participants)



**THANK YOU FOR YOUR ATTENTION!**

