

DARK SKY LAB



WE STUDY
LIGHT POLLUTION
TO IMPROVE
NIGHT CONDITIONS

LABELLING
« INTERNATIONAL
DARK SKY PLACES »



RESTORING
DARKNESS
FOR BIODIVERSITY



REDUCING ENERGY
CONSUMPTION
OF LIGHTING SYSTEMS

MITIGATING
THE IMPACT ON
HUMAN HEALTH





DARKSKYLAB OFFERS TECHNOLOGIES AND SERVICES TO MEASURE, ANALYSE, MODEL AND MAP LIGHT POLLUTION AT NIGHT.

Artificial lighting is a source of nuisance

The development of artificial lighting at night has made it possible to extend our days. But it also generates increasing negative impacts:



pressures on biodiversity



increased energy consumption



degradation of human health



obstacles to astronomical observation

Many sectors and activities are concerned

DarkSkyLab's solutions are intended for all stakeholders involved in the development and management of lighting systems:

- Lighting design
- Local authorities
- Engineering offices
- Public lighting
- Industrial, agricultural and commercial sites
- Natural areas
- Transport infrastructures
- Land use planning and urban development
- Health and insurance
- Community facilities

We help our clients to diagnose and reduce light pollution

- Audit of public and private lighting systems
- Territorial diagnostic
- Implementation study of lighting points
- Simulation and comparison of lighting improvement scenarios
- Recommendations and action plans
- Definition of dark infrastructures for nocturnal biodiversity
- Territorial planning
- Training and awareness raising
- Consulting in the design of tools and methods
- Scientific and technical support





P. 4-5

OUR DATA ACQUISITION AND ANALYSIS SOLUTIONS



Privileged access to very high resolution night-time satellite images

DarkSkyLab has joined forces with La TeleScop, the French distributor of very high resolution images (<1m) from the CGSatellite Jilin-1 constellation. These images enable the very precise quantification, geolocation and mapping of light radiance.

This makes it possible, for example, to characterise the contributions of private and public lighting systems.



Ninox, the continuous ground-based light pollution measurement system

This tool developed by DarkSkyLab is intended for automatic surveys and can be installed in any field, for any length of time. Its measurements make it possible to define an absolute statistical indicator of light pollution.

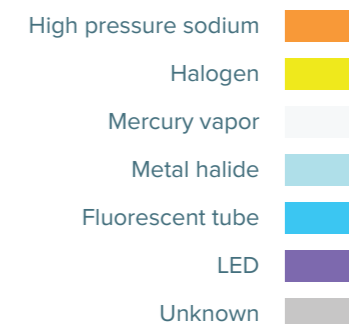
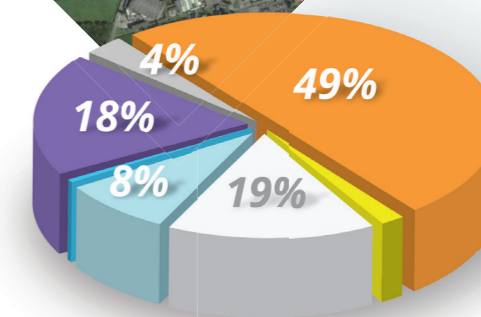


A unique expertise in the analysis and consolidation of lighting point databases

DarkSkyLab has structured and analysed the data of more than 2 million public lighting points throughout France.

Using our Lampyre and Asio softwares, this work aims to:

- standardise the lighting data provided by the client
- identify and quantify the need for additional data
- analyse and enhance the data by producing statistical and cartographic indicators
- create sets of virtual lighting points in case of missing data





P. 6-7

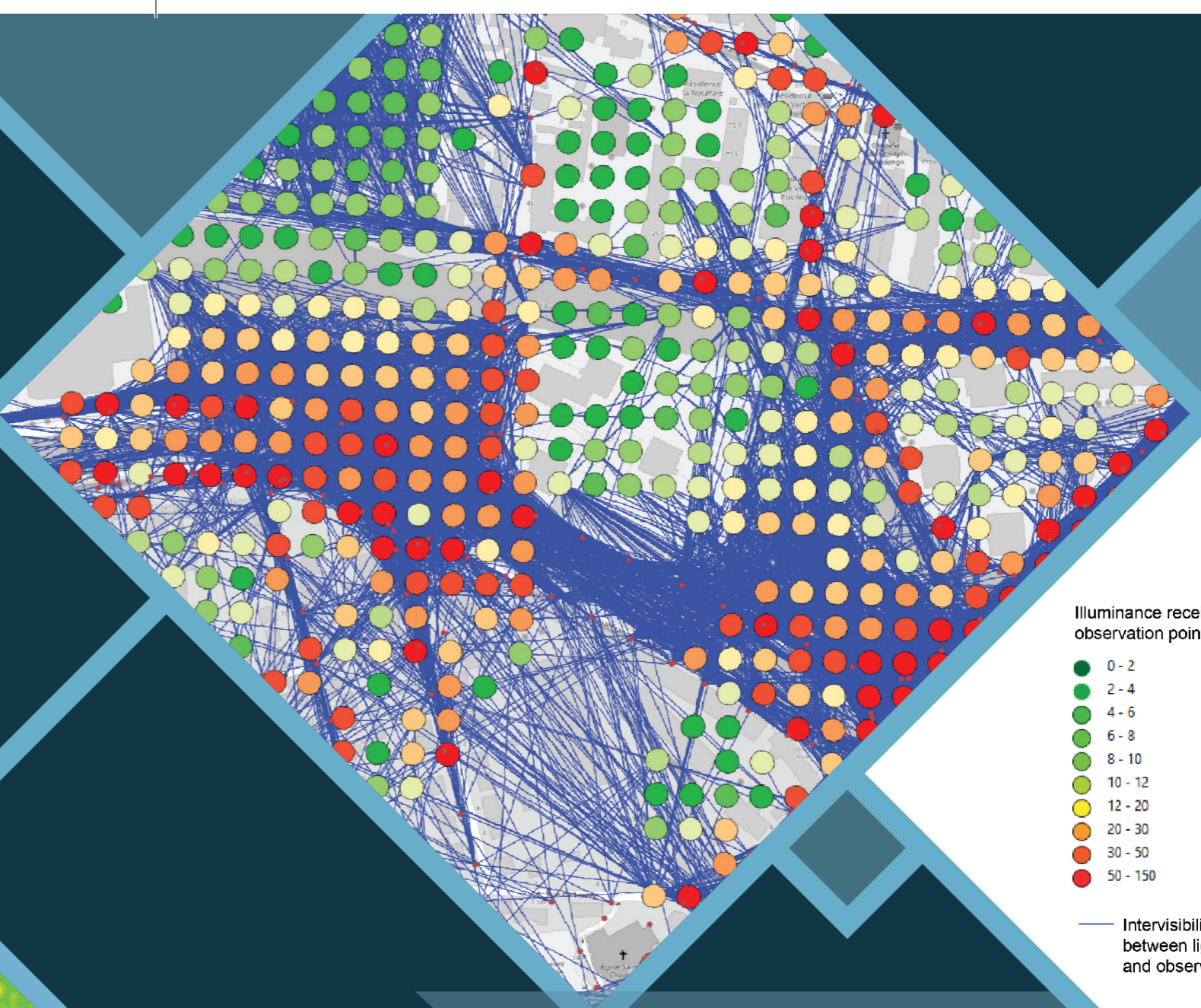
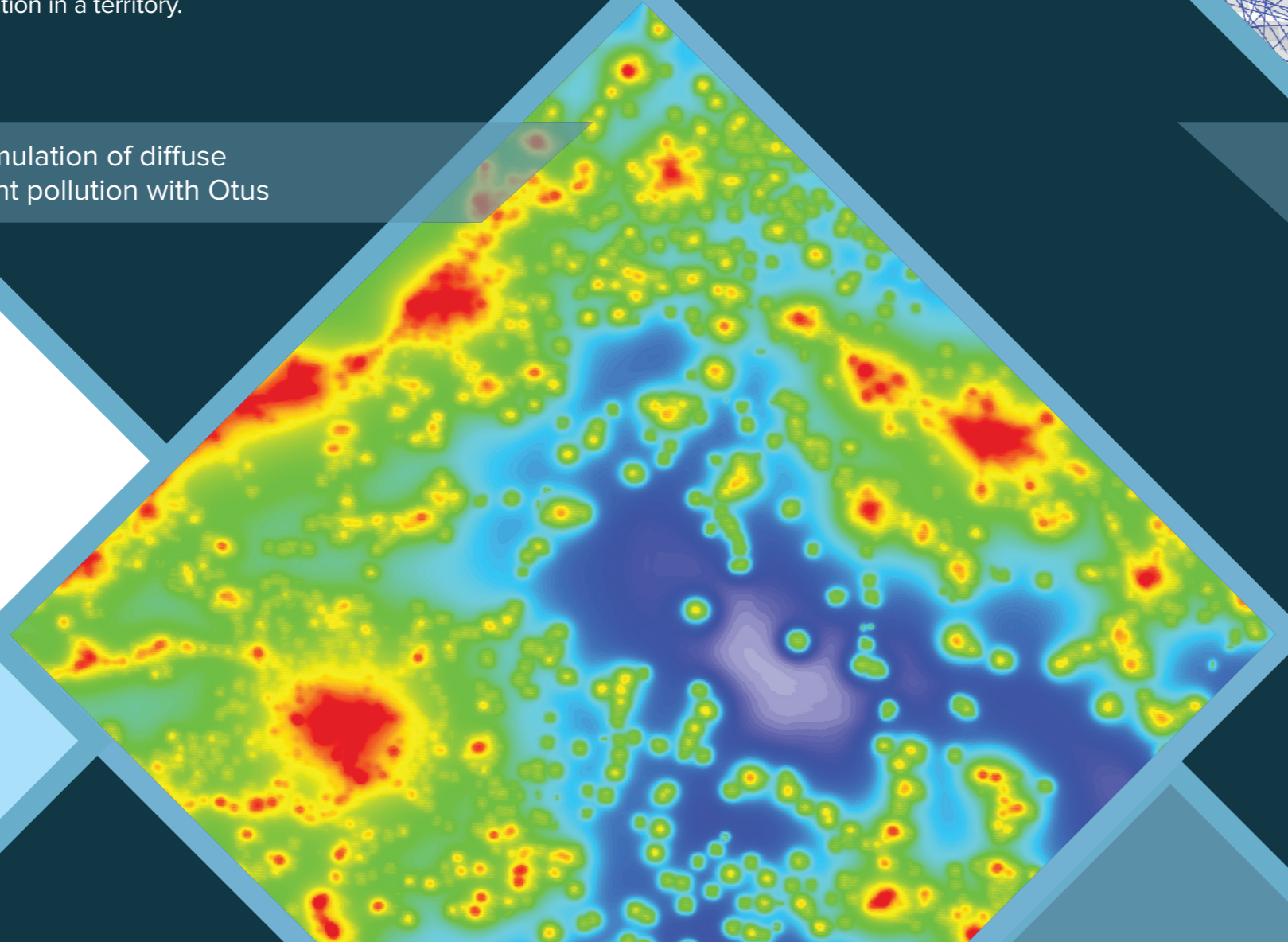
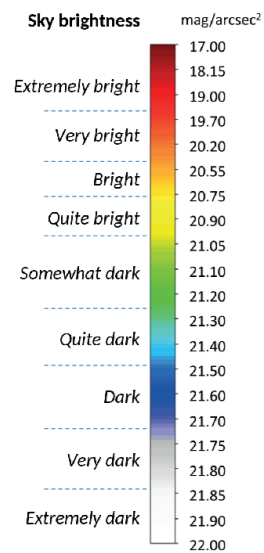
OUR MODELLING AND SIMULATION TECHNOLOGIES

Otus,

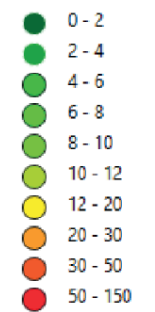
the diffuse light pollution mapping software

From aerial and satellite photos, lighting databases, or field surveys, Otus produces maps that allow the level of brightness of the sky at night to be assessed at any location in a territory.

Simulation of diffuse light pollution with Otus



Illuminance received at observation points (lux)



— Intervisibility network between lighting points and observation points

Direct light pollution map made with Strix

Strix,

the direct light pollution mapping software

By combining data from lighting systems and digital elevation models, Strix produces maps that measure, at various points in a study area, the level of exposure to artificial lighting through direct visibility of light sources.



Since 2014,
we have supported:

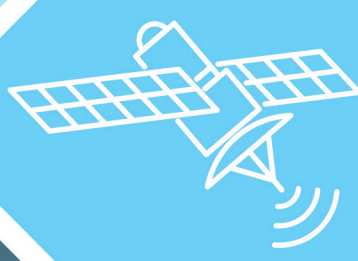
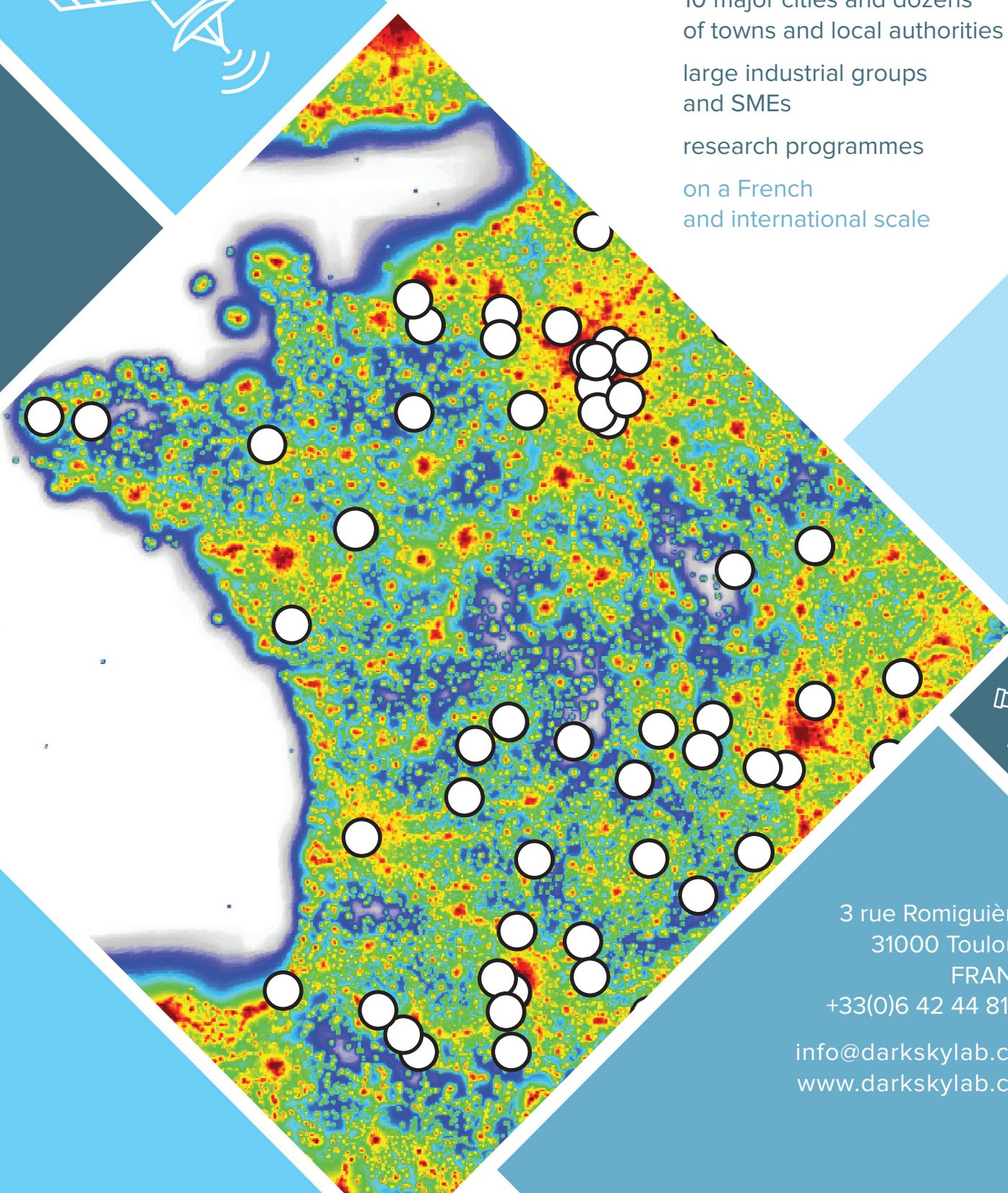
25 national
and local natural parks

10 major cities and dozens
of towns and local authorities

large industrial groups
and SMEs

research programmes

on a French
and international scale



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