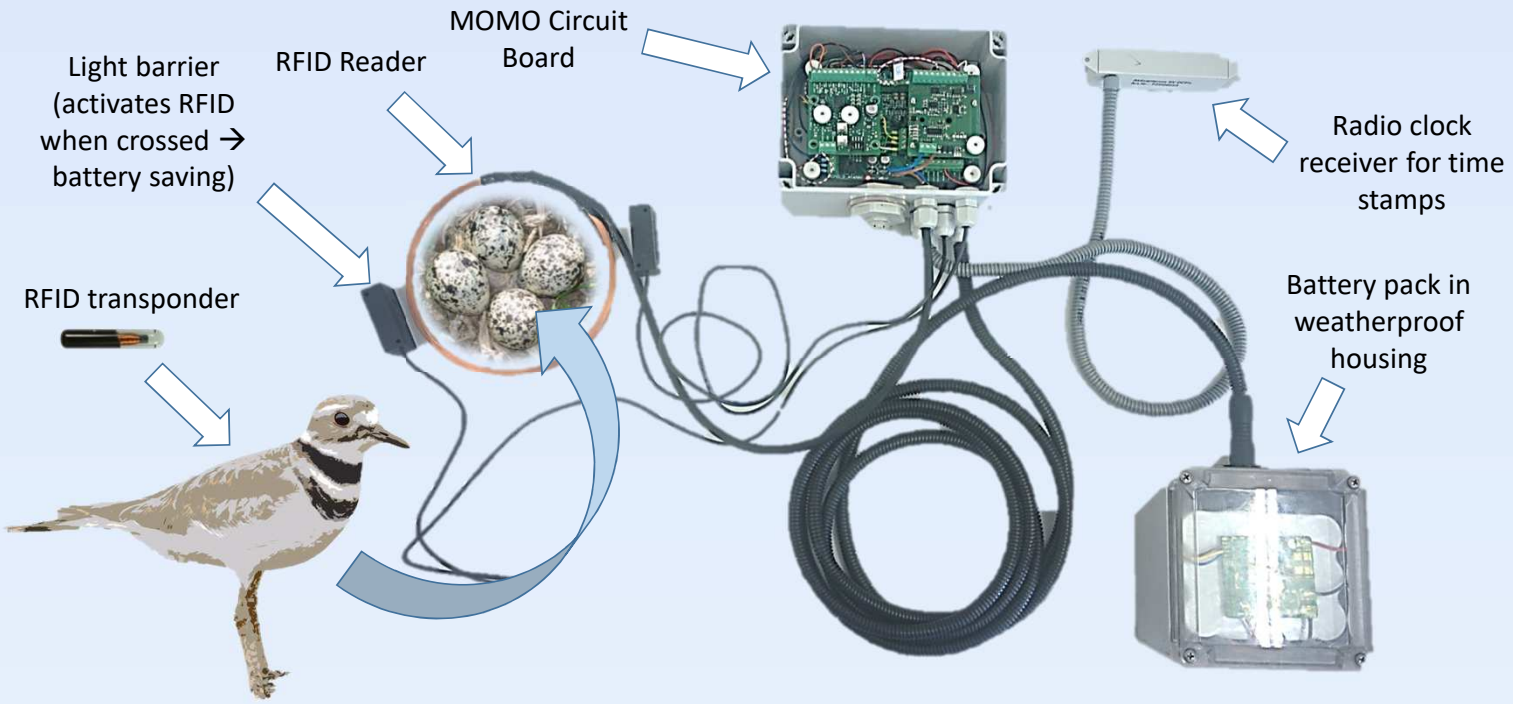
Multifunctional Mainboard to Observe and Manipulate Organisms (MOMO)
Light Barrier and Long Range Reader

Automating the recording and manipulation of animal behavior

Max-Planck-Institut
für Ornithologie

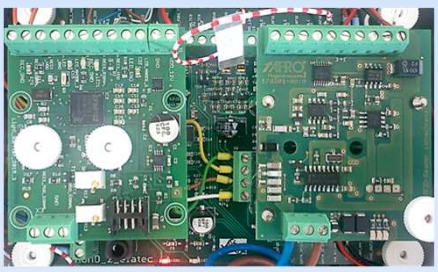
Peter Loës & Peter Skripsky
Department Kempenærs

MAX-PLANCK-GESELLSCHAFT



APPLICATIONS OF THE LIGHT BARRIER AND LONG RANGE READER MOMO:

- Identification of any open nesting species that can be fitted with a RFID transponder
- Breeding behavior studies (e.g. incubation and brooding rates, nestling feeding rates, differential parental care)
- Very battery efficient due to the light barrier activation – ideal for remote fieldwork



MOMO Circuit Board
(Light barrier circuit on left & long range reader circuit on right)

POSSIBLE CONFIGURATION SETTINGS:

Operating time
ON_TIME = 05:00
OFF_TIME = 21:00

Light barrier filter [s]
LB_FILTER_DURATION =20

RFID settings [s]
RFID_PWR_OFF_TIMEOUT =360
RFID_DETECT_TIMEOUT = 15

ID-specific configurations
Read all IDs

OUTPUT EXAMPLE:

20180711-131325.912 LB1:ON
20180711-131325.912 RFID is powered ON
20180711-131325.922 Transponder: 5CA0EA411F1688E0
20180711-131325.984 LB1:off
20180711-131925.990 RFID is powered OFF