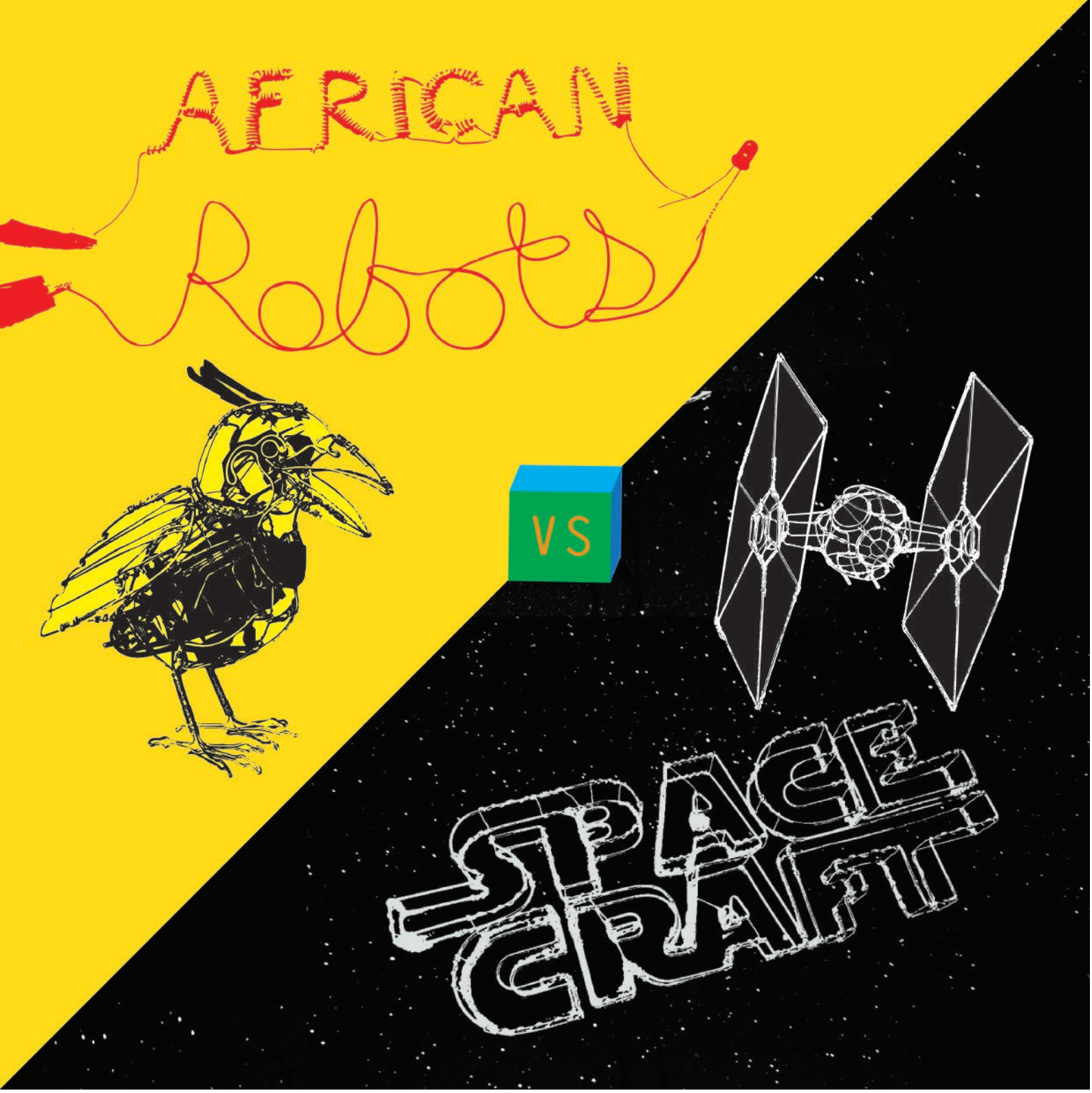
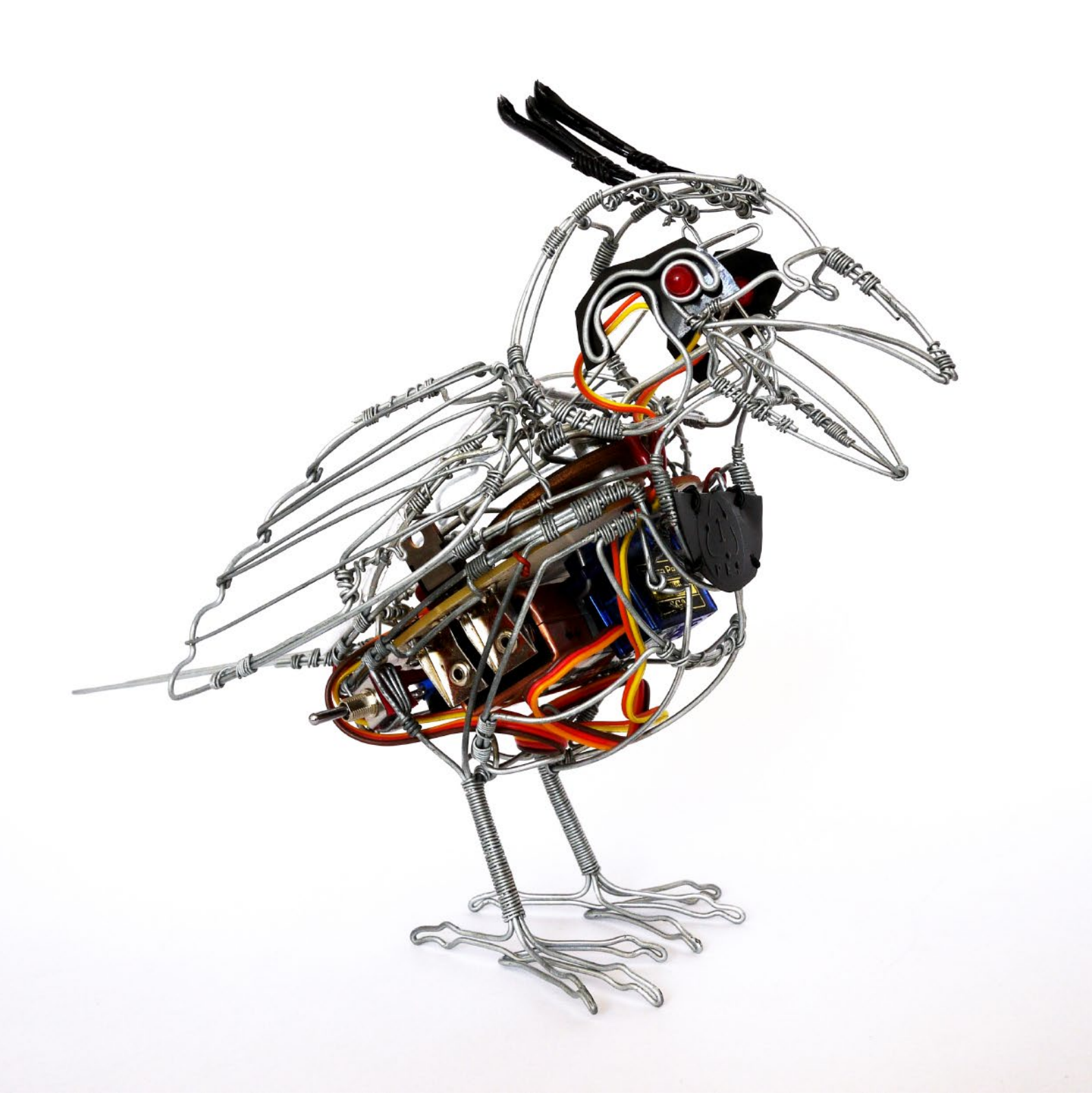


Instagram flier for the exhibition African Robots/ SPACECRAFT. Cape Town, South Africa, July 2017

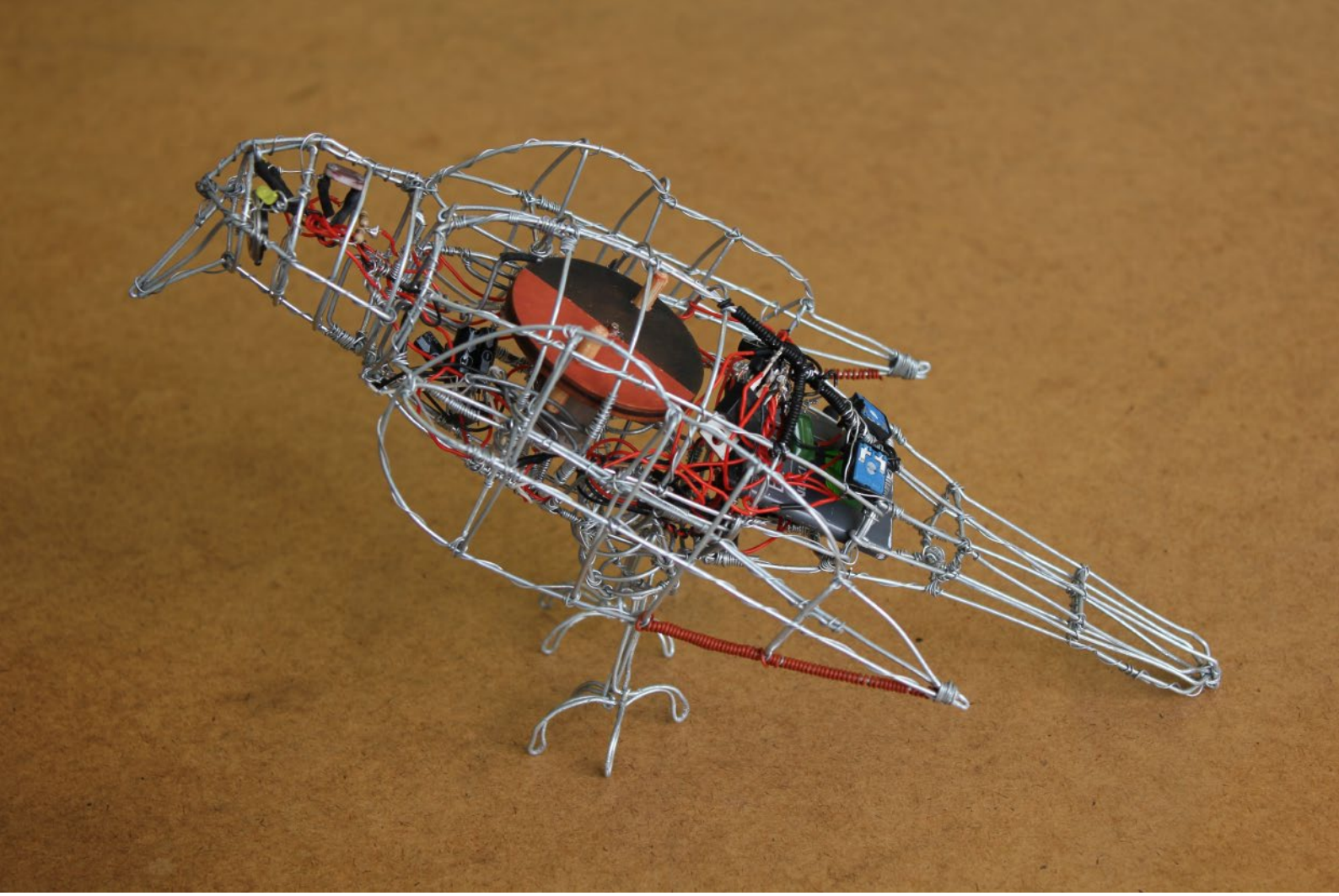
AFRICAN ROBOTS & SPACECRAFT: AN OVERVIEW

RALPH BORLAND 2017



Crested Barbet, Cape Town, South Africa, 2017

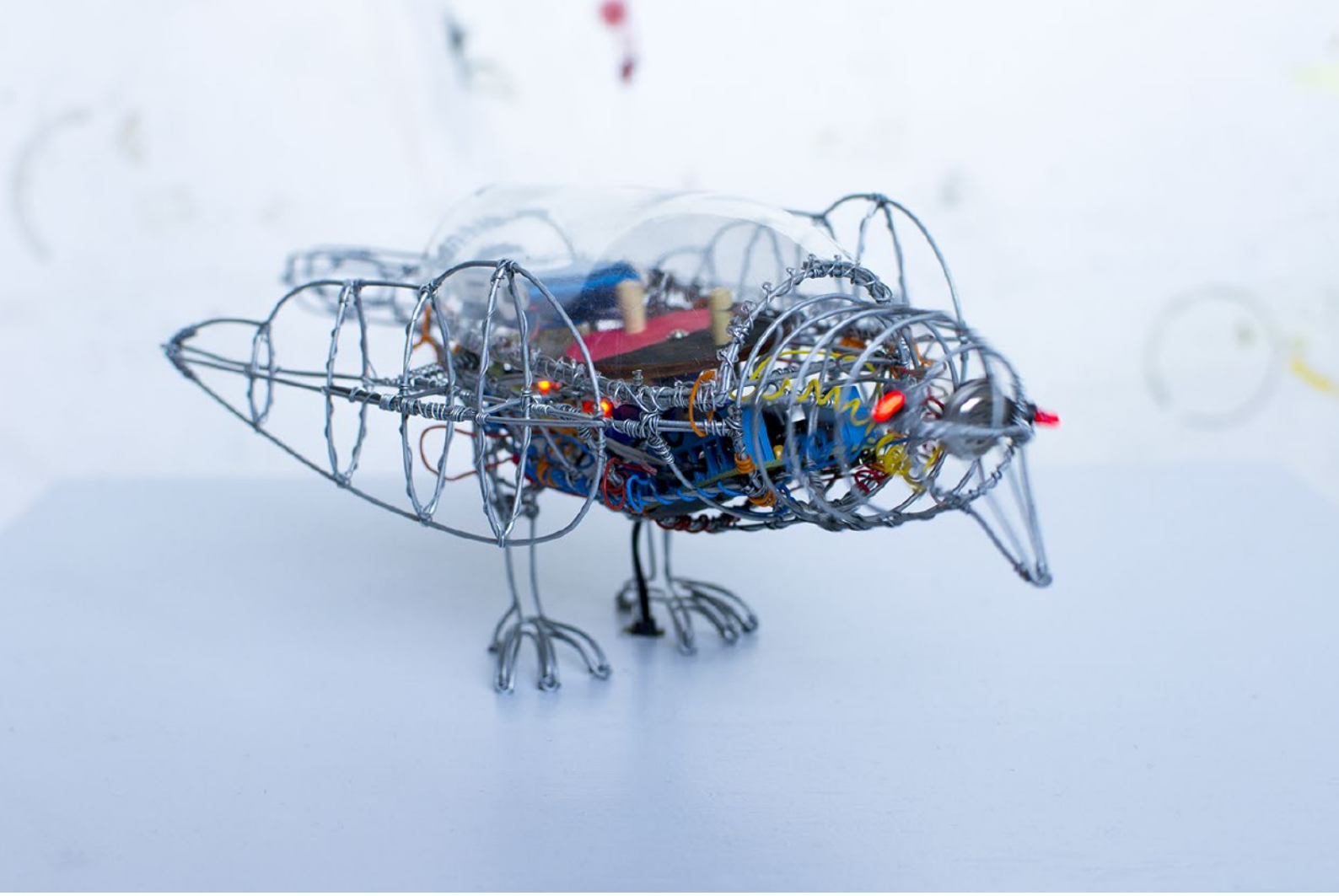
AFRICAN ROBOTS is a project to intervene in street ‘wire art’ production in Southern Africa (particularly South Africa and Zimbabwe). Here, informal sector artists make largely ornamental goods from galvanised steel fencing wire and other cheap materials, which they sell in the street. African Robots brings DIY electronics knowhow and cheap components to produce interactive and kinetic forms of work; African automatons such as birds, animals and insects.



Starling 1.0, Cape Town, South Africa, 2013

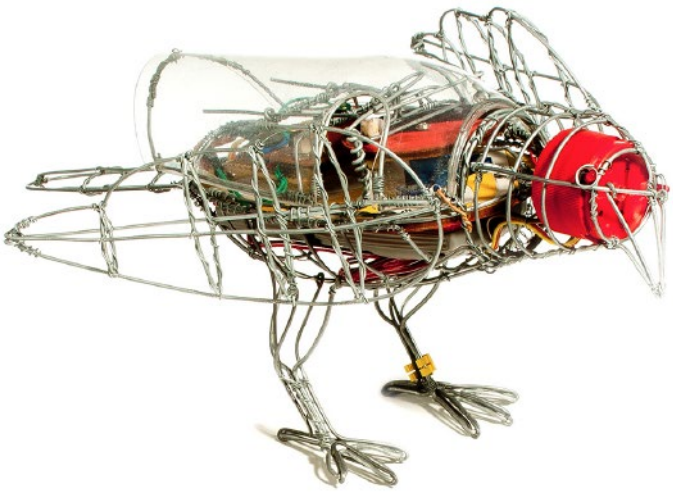
The first prototype to test the idea was produced with the assistance of Henrik Nieratscher in Cape Town, South Africa in 2013. It is based on a common urban bird in South Africa, the red-winged starling. They are often present in the same areas as wire artists, and are intelligent creatures; the mechanical bird is also a common trope in art and literature. The wire artist commissioned for the piece was Dube Chipangura.

This first prototype was an expression of the initial aim of the project, which was to combine networks for informal street cell-phone repair with informal street artists and make use of phone parts for elements of the electronics. When the project was first outlined in 2008, the Nokia was the ubiquitous cell-phone and parts were quite simple. This version uses a cellphone speaker and battery. Since then, cell-phones have become smart phones and more complex, and the focus is less now on specifically cell-phone parts as material. Cheap Chinese-manufactured electronic toys as well as off-the-shelf components have entered the picture.

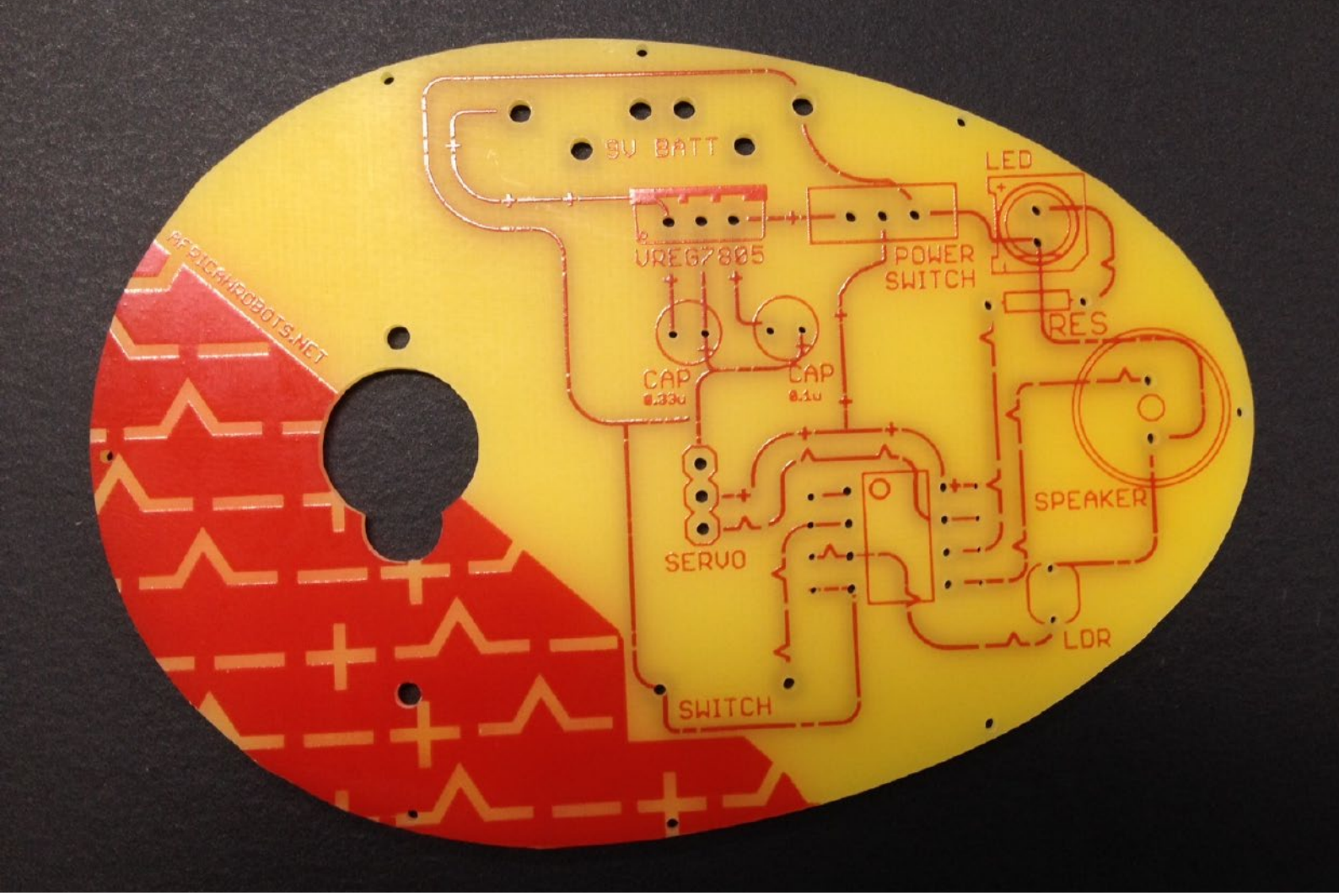


Starling 1.1, Cape Town, South Africa, 2014

Two further iterations of the Starling have followed, 1.1 and 1.2. Starling 1.1 is well travelled, having been exhibited at the Vitra Design Museum in Germany in 2015, and the Toronto International Film Festival digiPlaySpace exhibition in 2016. It uses a hacked imitation iPod playing a recording of a starling's call. Starling 1.1 uses the voice-box of a Chinese toy bird combined with DIY electronics, and has been exhibited at Machines Room, London, and is on it's way to the AKAA convention in Paris in 2017.



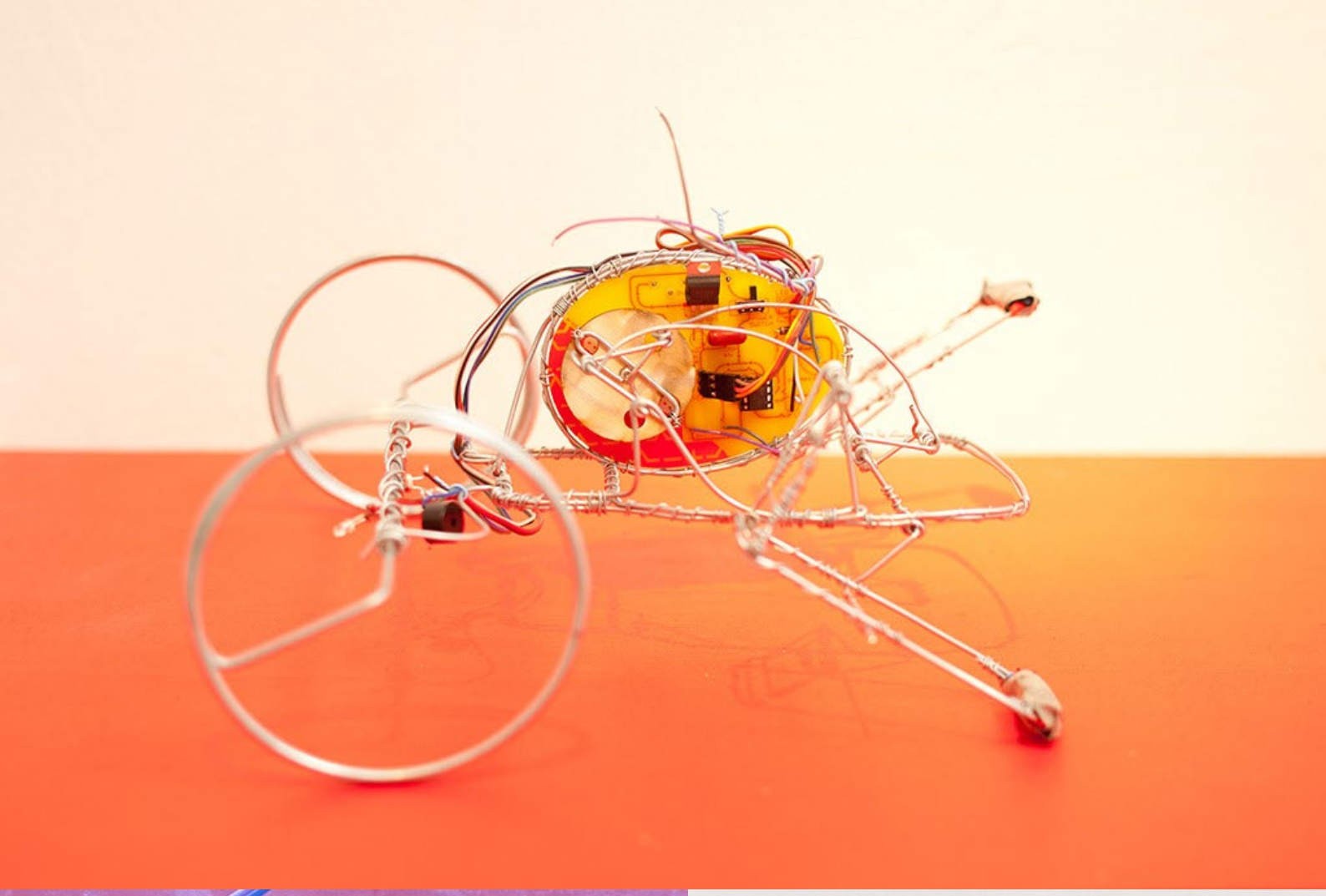
Starling 1.2, Cape Town, South Africa, 2015

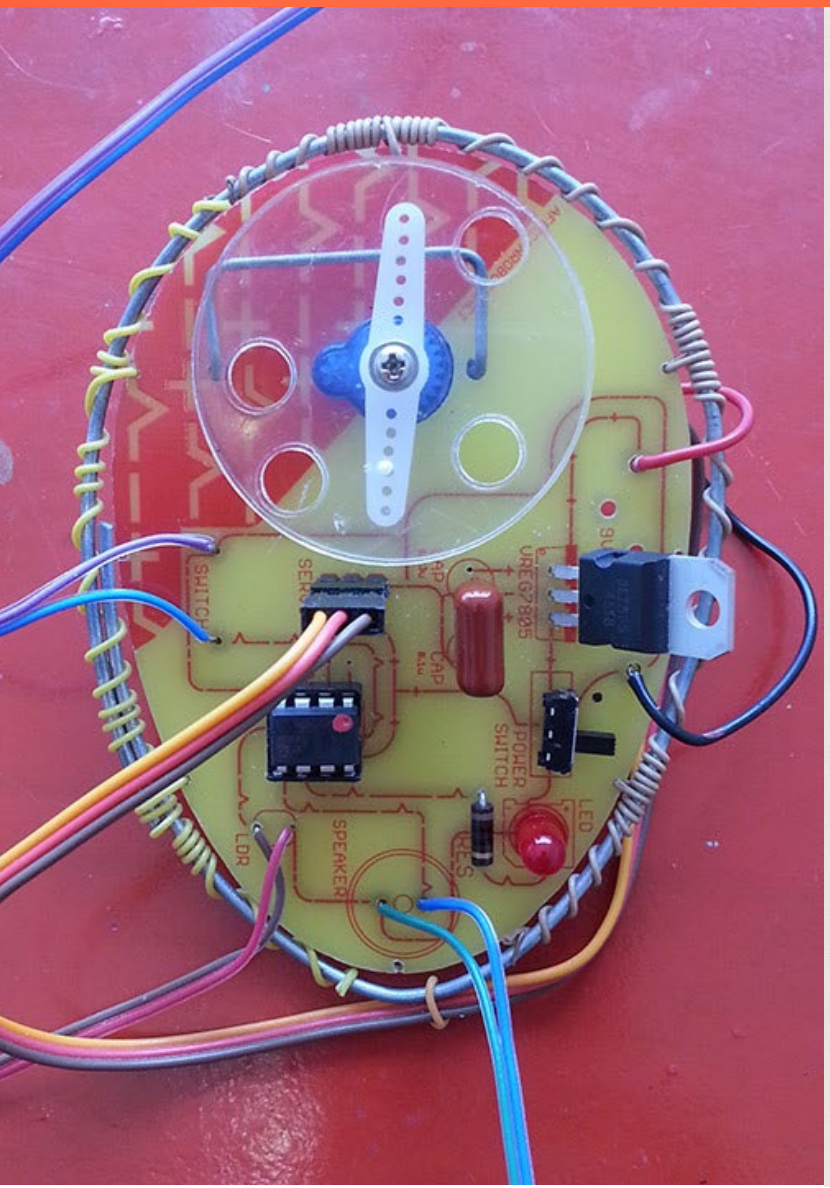


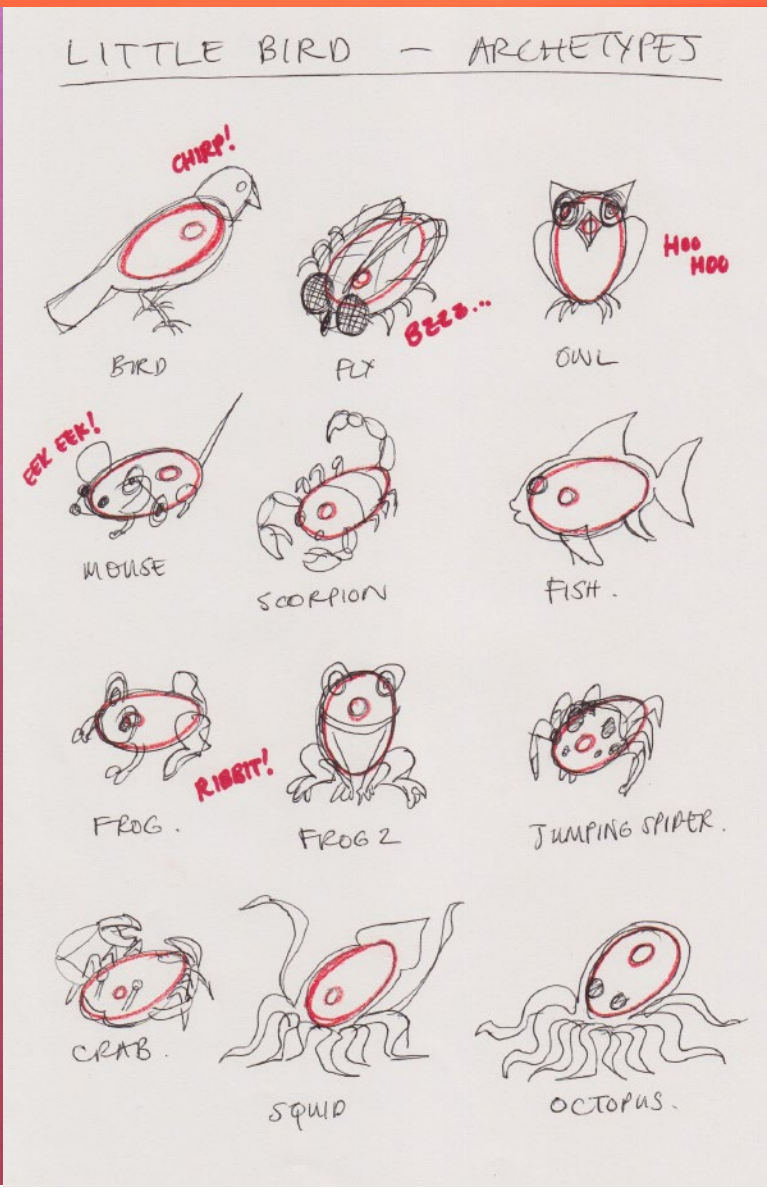
Little Bird, London, UK, 2015

The design of Starling 1.2 led directly to the development of a purpose-made circuit board to make it easier to run workshops, and to experiment with the idea of putting automaton development into the hands of wire artists more easily. Using funding from ZA Connect, a funding scheme from South Africa's National Arts Council and the British Council, African Robots collaborated with the UK firms Technology Will Save Us and Hirsch&Mann to make Little Bird, a multipurpose platform for making wire work automatons.

African Robots is currently in discussions with a South African educational technology firm to develop a similar kit for teaching electronics in schools, using a local vernacular form to increase student interest.




SWITCH
SERVO
CAP
UREG7805
POWER SWITCH
LED
SPEAKER
LDR


LITTLE BIRD – ARCHETYPES
CHIRP!
BIRD
BEEB...
FLY
HOO HOO
OWL
EEK EEK!
MOUSE
SCORPION
FISH.
RIBBIT!
FROG.
FROG 2
JUMPING SPIDER.
CRAB.
SQUID
OCTOPUS.

A ‘scotch yoke’ mechanism used in Starling 1.2, translating circular to linear movement

One of the intentions of African Robots has been to democratise access to technological knowhow: mechanical forms that have been in use for centuries for example, as well as computational and electronic principles. The ‘curriculum’ (one of the visions of the project is for an African Robots Academy) includes emphasis on non-European and extra-Western examples of such knowledge: the 12th century Islamic inventor Al-Jazari’s automaton designs for example (which include some of the earliest known examples of programmable devices) and fields such as Ethnomathematics, which recognise the use of mathematical principles found in non-maths places (often in craft practices such as weaving).

Baskets made from woven electronic wire by ZenZulu, South Africa

An African Robots workshop in Harare, Zimbabwe in 2015

A number of workshops have been held with wire artists in South Africa and Zimbabwe, and their work exhibited internationally. A variety of approaches have been experimented with, from using hacked toys to store-bought components, to the Little Bird kit platform. The different approaches touch on global flows of ideas and goods - one project saw toys bought at Chinese electronics markets in Sao Paulo made into wire work automatons in Harare, and exhibited in London! Wire artists in Harare quite specifically saw their repurposing of imported toys as a riposte to the reverse that they are accustomed to - their designs being appropriated or substituted by imported goods.

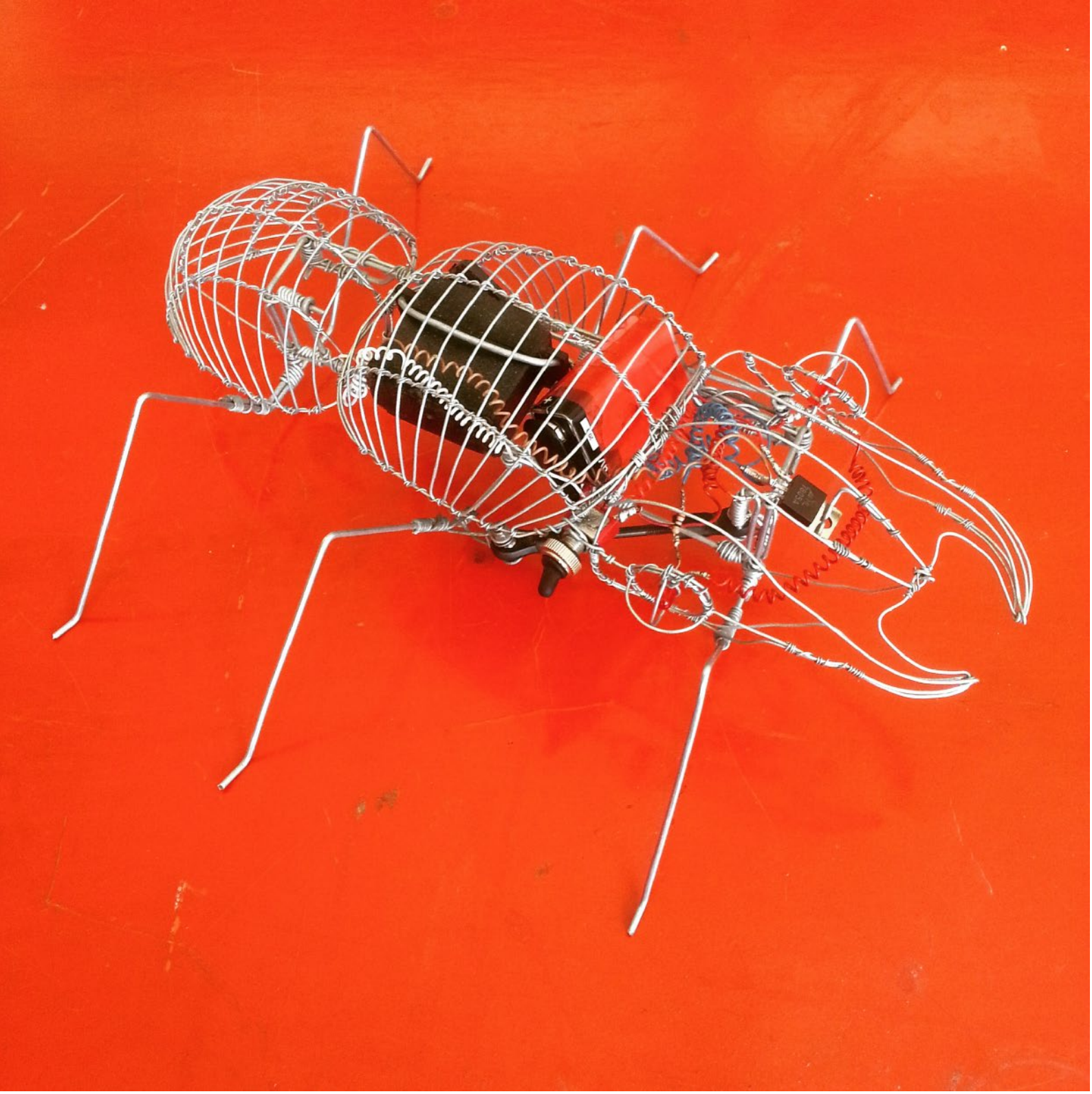
RALPH
BORLAND

LEWIS
KALUZI

One thing the project has been careful to do is to properly credit artists for their work. Street art and craft is often presented as anonymously produced, exacerbating imbalances of power and representation.
The project is a continual learning process around the working practices and needs of wire artists. In identifying shared interests between the project lead and wire artists - such as reggae and dub music and culture - connections have been formed through growing friendships, while still recognising differentiated responsibilities and facilities.

DUBE
CHIPANGURA

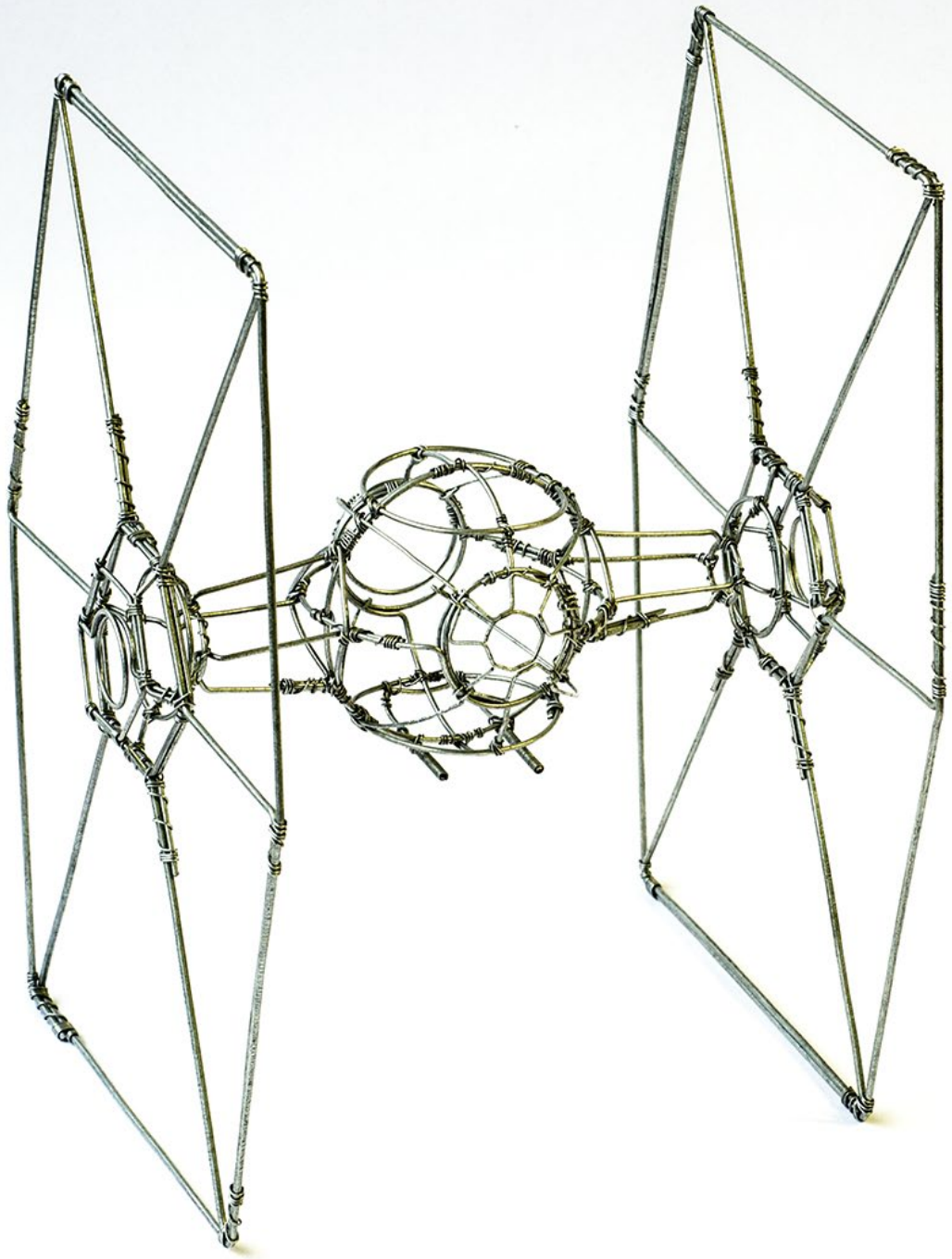
HENRIK
NIERATSCHKER



Ant, Cape Town, South Africa, 2017

One of our recent prototypes for an ant was developed in collaboration with Lewis Kaluzi. He came up with an ingenious walking mechanism, which inspired the insect form for it. We are currently developing a version built around the Little Bird platform.

See the Ant in action at: https://www.instagram.com/p/BZA_Laplx_Z/

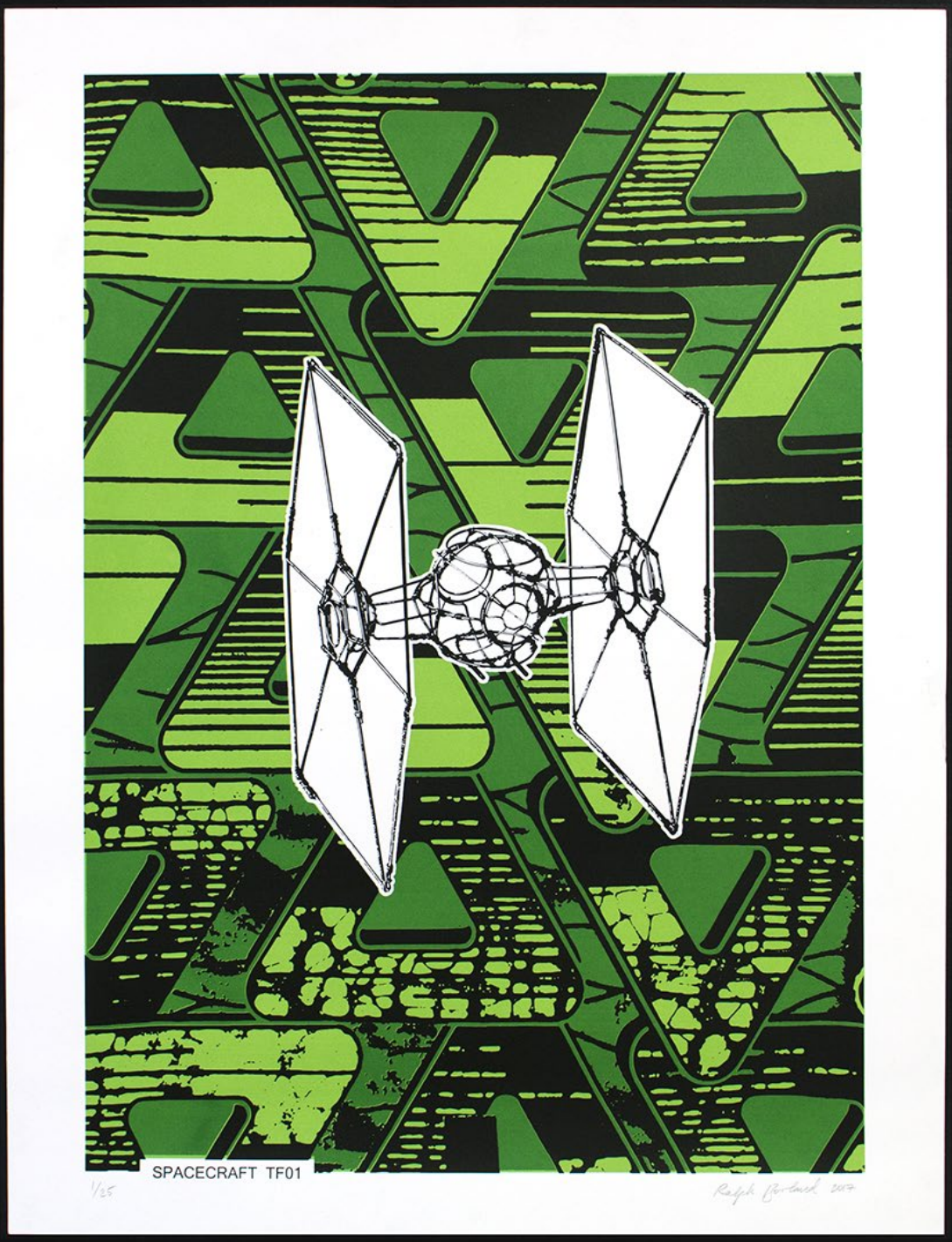


TF01 SPACECRAFT. Cape Town, South Africa, 2017

SPACECRAFT is a project to create ‘wireframe’ sculptures of spaceships from popular science fiction that play on the similarities between old school computer 3D graphics and hand-crafted African street wire art. They are intended as a catalytic insertion to existing street craft marketing and sales practice, attracting new audiences to the form and making a contribution to the informal economy.

2m x 2m wall vinyl for the conference'Strategic Narratives of Technology and Africa', MMIT September 2017

In an expanded fictional frame for SPACECRAFT, the wirework spaceship sculptures are imagined as the product of wandering space artists and merchants. This plays on wire art as an observational art form, in which wire artists base their designs on influences around them, such as cars and motorbikes, as well as aeroplanes, animals, insects etc.

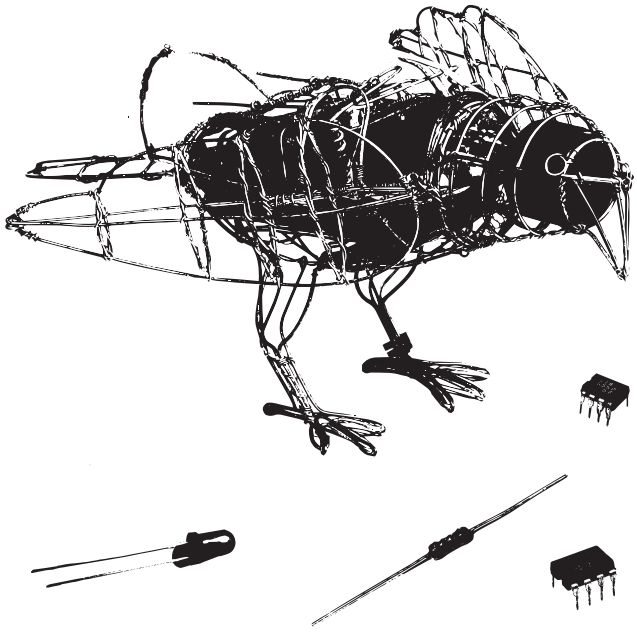


Limited edition screenprint produced with Black River Studio, Cape Town, South Africa 2017

The SPACECRAFT project has expanded to include other outputs such as limited-edition fine art screenprints that use sampled wax-print fabric patterns as backdrops, T-shirts and other clothing. This is part of an evolving experiment that draws on interventionist art, product design and speculative (design) fiction for its influences.

For more information about the project, contact us via:

http://africanrobots.net

Some coverage of the project is at
http://africanrobots.net/press

And videos and images can be seen at
http://instagram.com/ralphborland