Christian Brändli, PhD
christian@insightness.com
0041 077 430 32 59

FROM EVENT-BASED VISIONS TO REAL SYSTEMS

insightness
sight for your device

First International Workshop on
Event-based Vision
ICRA 2017, June 2nd, Singapore

WHO IS INSIGHTNESS

insightness

sight for your device

TEAM

Christian Brändli, PhD

Managment

PhD thesis in field
Worked at startup GetYourGuide
Venture Leader award

Marc Osswald, PhD

Product

PhD thesis in field
Training as El. & Mech. Engineer
Intership ESA

Nathan Baumli

Algorithms

MSc thesis in field
Employee Nr. 1
Internship ABB

Raphael Berner, PhD

Chip Design

PhD thesis in field
Worked in industry
Quit job to join company

+ 2 Computer Vision Engineers

+ 1 Drone Engineer

+ 1 Chip Designer

ADVISORS

Prof. Tobi Delbruck — *Co-Founder, expert for event-based vision sensors*

Albert Bergemont — *Ex-VP Maxim Integrated, expert for semiconductors*

BOARD MEMBERS

Jim Lewis — *Serial Entrepreneur (Ex-CEO Mesa, Avalon, ...), Consultant*

Ed Schneider — *Managing Director, Quan Technology Fund*

THE HISTORY OF INSIGHTNESS I

2005 2006 2007 2008 2009 2010 2011 2012

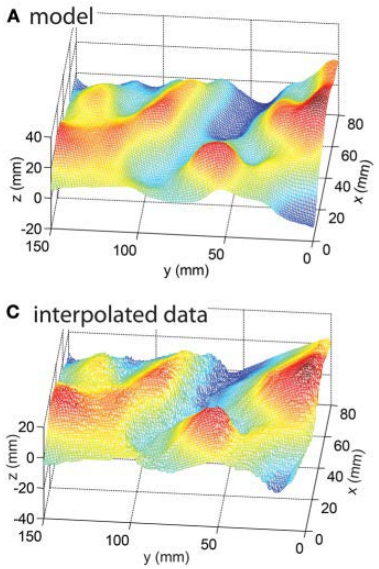
Tobi: First working event-based vision sensor (DVS)

Rapha: First event - USB 2.0 interface

Christian: First event-based «autonomous driving»

Rapha: First color-sensitive DVS

Christian: First event-based structured lighting

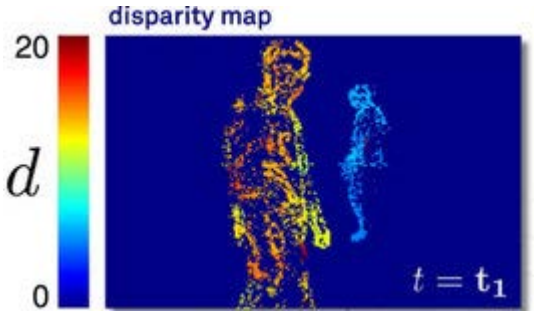


The History Of Insightness II

2013 — Rapha: First DAVIS

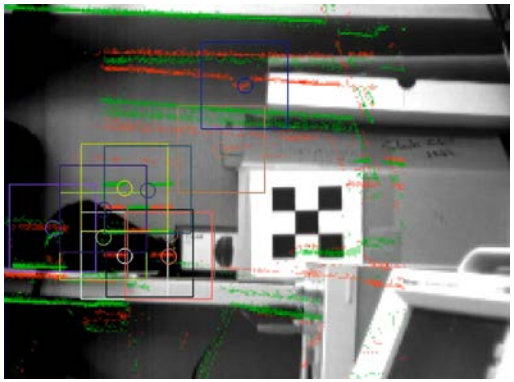
2014 — Chris & Tobi: First BSI event sensor

2014 — Marc: First robust event-based stereo



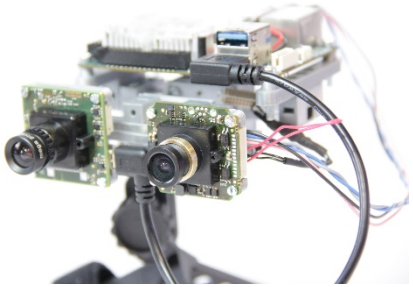
2014 — Insightness is founded & excl. license

2015 — Marc: First event-based keypoint tracking



2016 — Nathan: First event lifetime estimation

2017 — Insightness: First system EVK



FROM EVENT-BASED VISIONS…

“event-based sensors open frontiers which are unthinkable with standard cameras”

“visual sensing and processing in autonomous vehicles, connected devices, security and surveillance systems”


Systems
Markets
Event-based Sensors

WHY SYSTEMS?

- There are vision sensors that …
  - … are faster
  - … burn less power
  - … have more dynamic range
  - … produce less data
  - … have more temporal resolution
  - …
- The only USP of event-based: EFFICIENCY

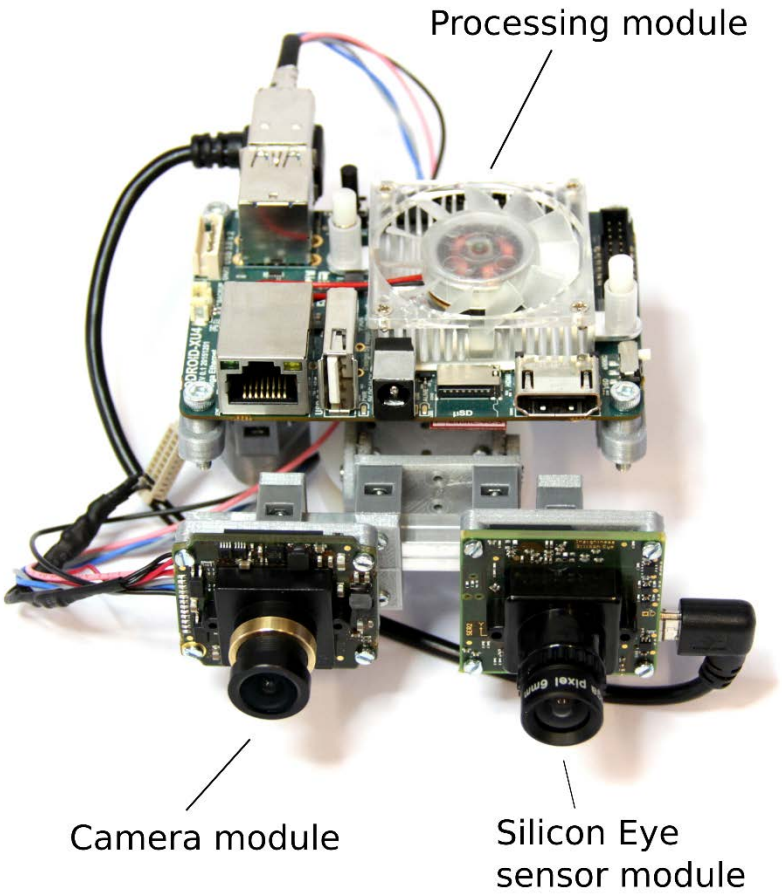
EFFICIENCY, A SYSTEM SPEC

- ***Efficiency is not measured on a sensor-level but as a system spec***

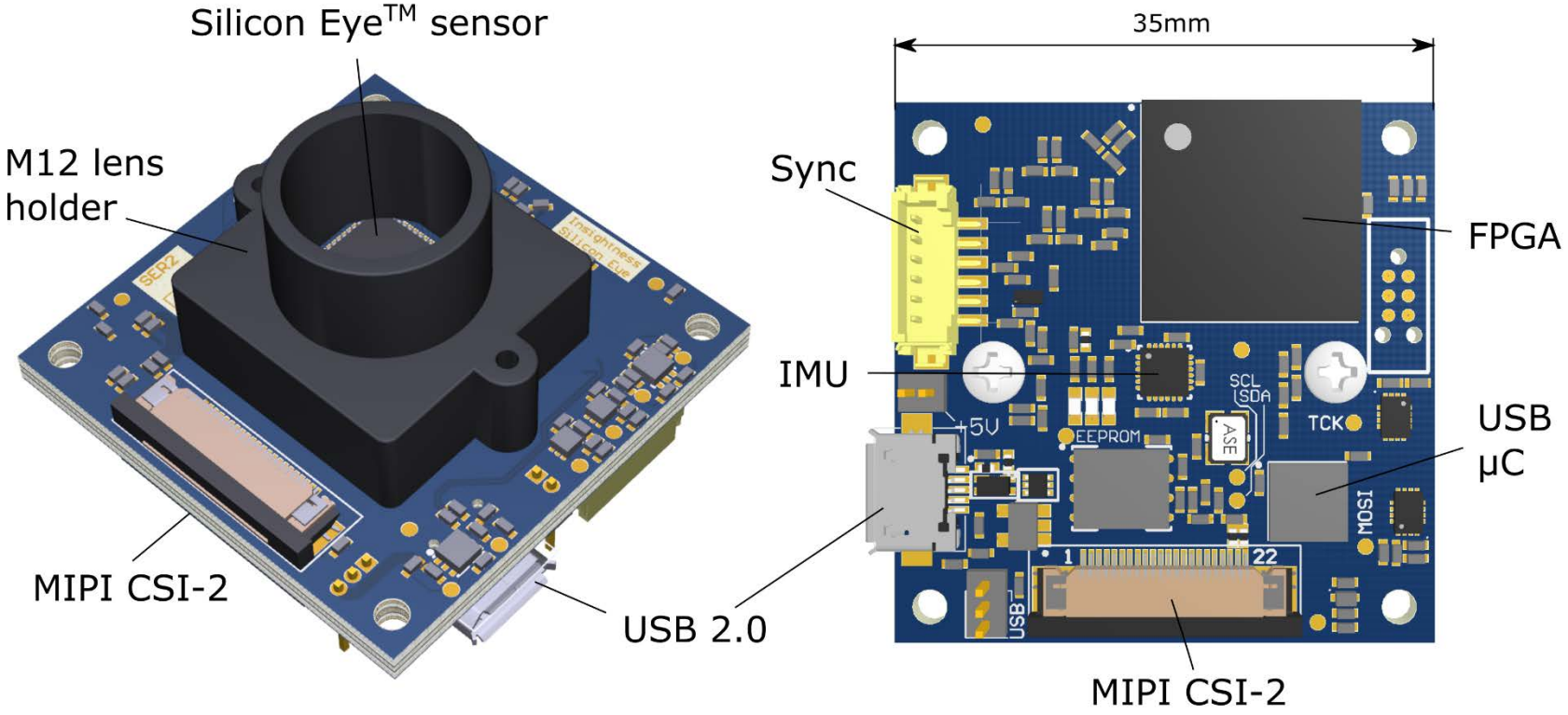
- System: Sensor, processing hardware, algorithms & software
- Making “better” chips or “better” software do not matter if the system they are integrated does not beat state of the art.

…To Real Systems

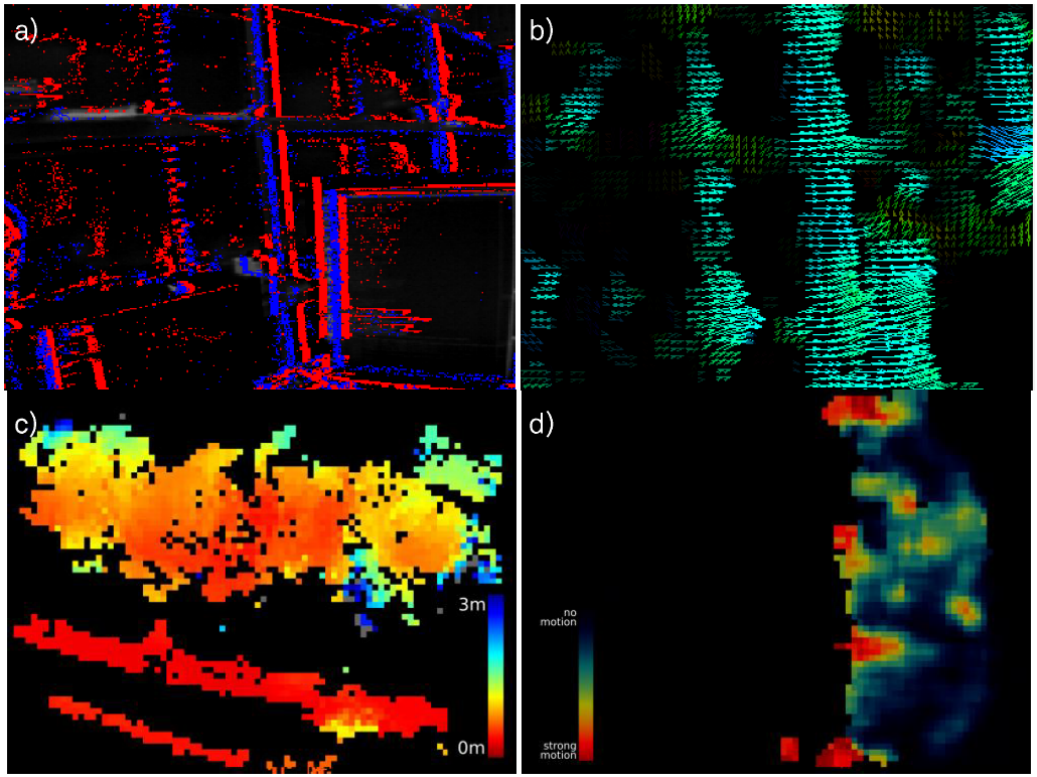
RINO 2 EVALUATION KIT



SEES SENSOR MODULE



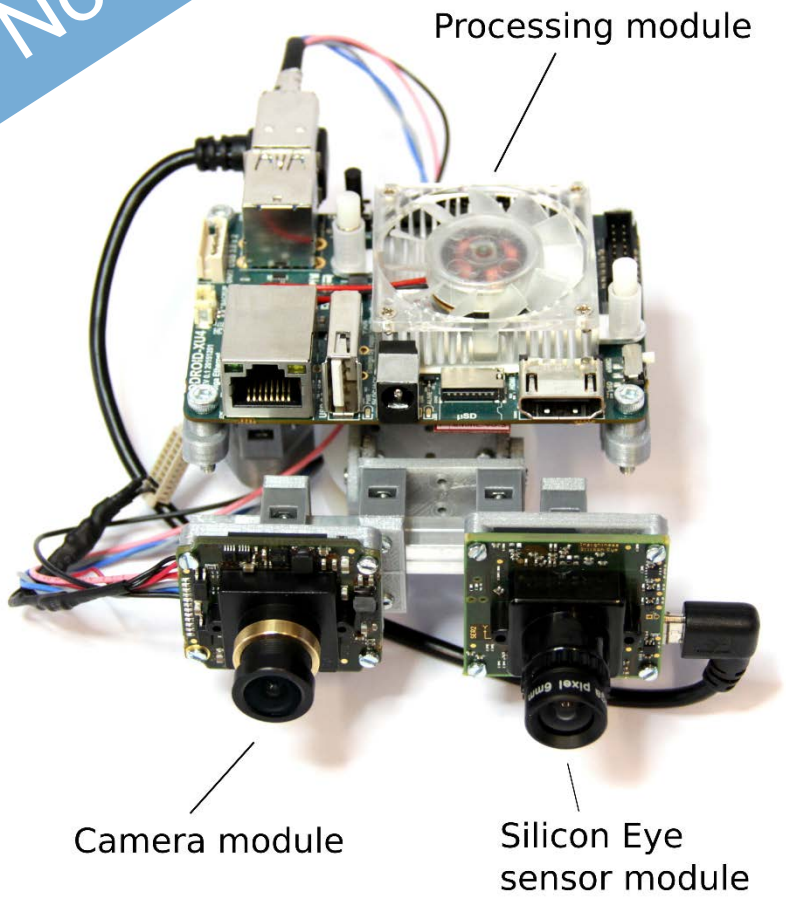
EVK Output



- Raw DAVIS events (a)
- Raw DAVIS frames
- 9 DoF IMU data
- Raw BlueFox
- Frames
- 6 DoF SVO Pose
- Visual Flow Map (b)
- Depth Map (c)
- Motion Map (d)

RINO 2 EVALUATION KIT

Order Now!



INSIGHTNESS AND YOU

- Apply as Computer Vision Engineer – we are hiring!
- Buy our evaluation kit
- Watch and share our youtube video: “Insightness Collision Avoidance”
- Build algorithms and license to us
- Introduce us to companies and investors
- Check out our demo

Christian Brändli, PhD
christian@insightness.com
0041 077 430 32 59

FROM EVENT-BASED VISIONS TO REAL SYSTEMS

First International Workshop on
Event-based Vision
ICRA 2017, June 2nd, Singapore

insightness
sight for your device