SNAPYX

An affordable global shutter platform for scientific community

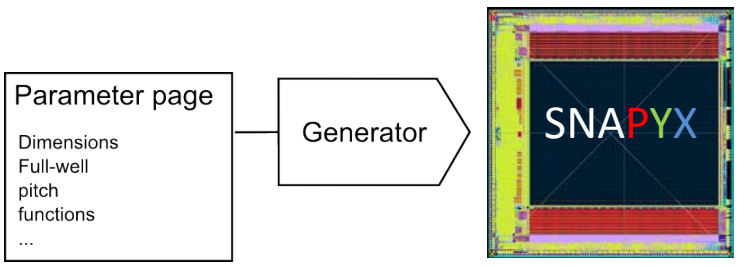
B. Dupont
PYXALIS, France

A scientific Global Shutter for many application

In nowadays technology, most advanced features are developed for consumer grade application whereas some of those technologies could be very beneficial for scientific imaging. In particular for quite a vast range of applications, **ultra-low noise global shutter** pixels are becoming more and more interesting. High speed low noise imaging in biology application, or earth observation satellites are looking for such architecture. However, using advanced technology node (**65nm or below**) to achieve state of the art performances has a significant cost. In this project, we propose a way to offset the costs by creating a dynamically generated pixel array dedicated to scientific imaging.

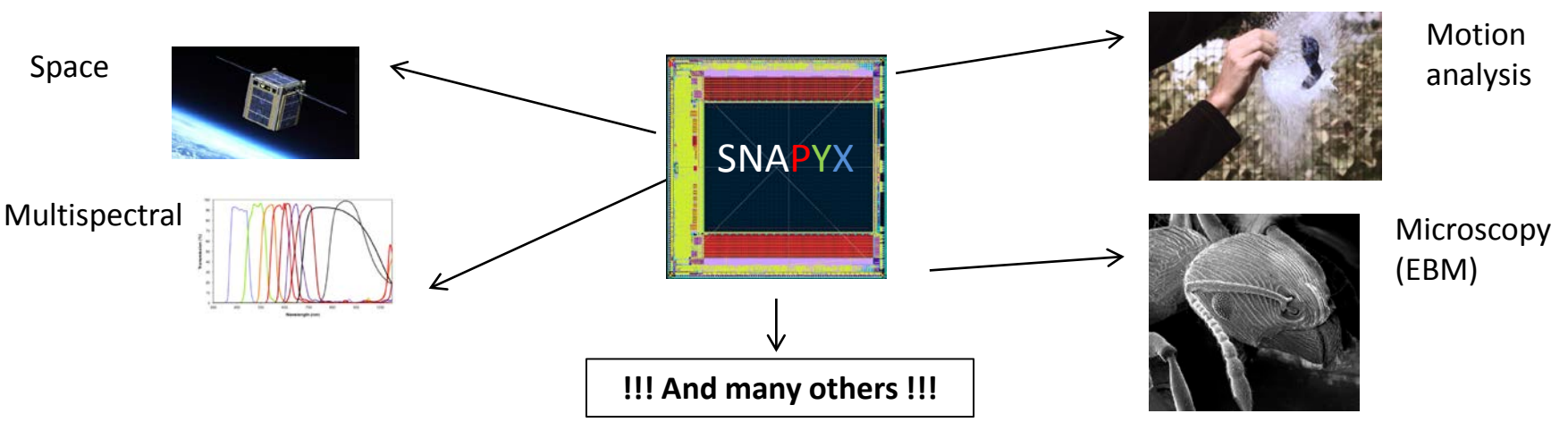
A platform to make it Affordable for the scientific community

Make state of the Art technology **Affordable** for the Scientific community by creating a flexible and programmable platform:



The platform is meant to be scalable with the following State Of The Art targets:

- Noise floor: **< 2e-**
- **Global shutter**
- Pixel pitch: scalable, from **5um** up to **100um**
- Image sensor diagonal: from a **few pixels to waferscale** imager.



Potential Impact

- New class of high performance semi-custom detectors for scientic imaging
- Affordable detectors for science
- Lower risk sensor development
- Shorter development time