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Low cost tape sensor - Main document

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Contents

[Links](#)

[Photonic layer design](#)

[Low cost tape sensor using kapton tape](#)

[Low cost tape sensor using 3D printed support](#)

[Electronics layer design](#)

[Manufacturing](#)

[Applications](#)

[Biking applications](#)

[Funding](#)

[Possible collaboration and interested parties](#)

Links

[Project page](#)

Similar projects - [Robot Finger](#)

Main R&D documents

[Rodrigo's R&D doc - Tape sensor - intro](#)

[Comparison between flex sensor and tape sensor](#)

[Matheus' R&D doc](#)

Photonic layer design

The following designs are joint-type transducers, which means that the bend sensitivity comes from a gap between two optical fiber heads. The mechanism is variable coupling from one fiber tip to the other.

Low cost tape sensor using kapton tape

[Rodrigo's R&D doc - Low cost Tape sensor prototyping - intro](#)

Low cost tape sensor using 3D printed support

[Rodrigo tape sensor - 3D printing document](#)

[Matheus tape sensor - 3D printing](#)

Electronics layer design

[Electronics Design and Prototype: Tape Sensor](#)

Manufacturing

Open [Kapton tape sensor - manufacturing](#) doc

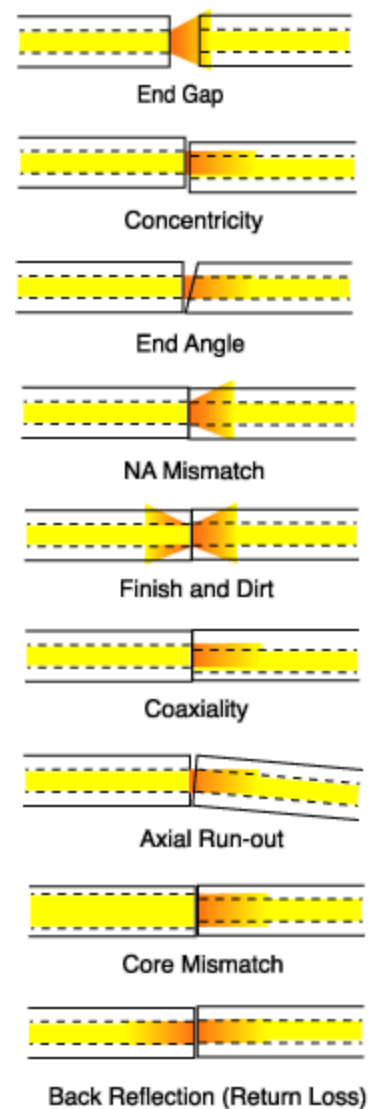
[Matheus...](#)

Applications

Biking applications

Jonathan met a guy interested in this application from McGill

- He sees potential for the [tape sensor](#) as a PowerMeter. These devices are very expensive (1500\$) and fail to democratize because of high price See these references:
 - [quarq.com](#)



- [ibikesports.com](#)
- bikers have sensors on their bikes (GPS, accelerometer, speed) and they share these data on [Strava](#) to compare their performance and find partners for biking (social network).

Physio

Monitoring body movements.

Collaboration

- [Vestechpro](#) - interested in tape sensor, contacts: [Audrey Febvre](#) and Nadine
- Backtrack, contact is Alex Danco (514) 513-4789 [alexdanco.com](#), [tandemlaunch.com](#), see with Yasir
- [Carre Technologies](#) see with Francois, Tibi and Jonathan

Hockey

Collaboration

- [Quattrium](#) (see [meeting with them](#))
- David Pearsall (Prof at McGill University, met by Tibi, Francois, Ivan, Jonathan in 2012) - [see presentation made for him](#).

Funding

[from Francois - [open doc](#)] we should submit the [tape-sensor](#) for aeronautics to [SA2GE](#) and [GARDN](#), these are governmental entities helping projects survive the “death valley”. The projects could be for aircrafts and helicopter blades, and in general Structural Health Monitoring. He favors GARDNS because they work more with SMEs.

Possible collaboration and interested parties

Meeting Daniel O. - he visited SENSORICA, [see document made by Francois](#).

Daniel O. did some calculations and the resolution needed for the tape-sensor is 1 micron !!!

Need FP cavity ?!