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Leading the way in knee's health

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About KneeKG

EMOVI commercializes KneeKG, a unique knee functional assessment device used by specialized physicians to more precisely assess and treat patients with knee problems.

Objectives of this presentation

- Highlight commercialisation challenges
- Present key factors that have helped the KneeKG commercialisation:
 - building a "Living Lab" Model
 - Working with "Luminary Sites"

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Knee assessment: Current gap

- **Mechanical deficiencies** ¹ =
 - ↑ risk of injury + secondary injuries
 - ↑ patient symptoms, chronic pain, recovery
 - ↑ progression & severity of knee osteoarthritis
 - **BUT Mechanical deficiencies are not yet measured in clinic = GAP**
- Demand for knee functional assessment devices:
 - Validated
 - Weight-bearing, dynamic condition
 - Fast (not too demanding for clinicians)

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1: Peer reviewed papers by Rheumatologists and Orthopedic surgeons of Harvard+Stanford+Boston+Chicago USA, Sydney AU, Israeli, China, Japan

TO UNDERSTAND OUR FIRST CHALLENGE

in licenced by EMOVI Co-ownership 2007-2010

LIO + **EMOVI** = **TEAM UP**

LIO: Research Laboratory Imaging & Orthopedics – CHUM ETS

EMOVI: Algorithms

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- 1995-2007 R&D
- 3 years of R&D

Market Readiness Perception : Researchers vs Companies

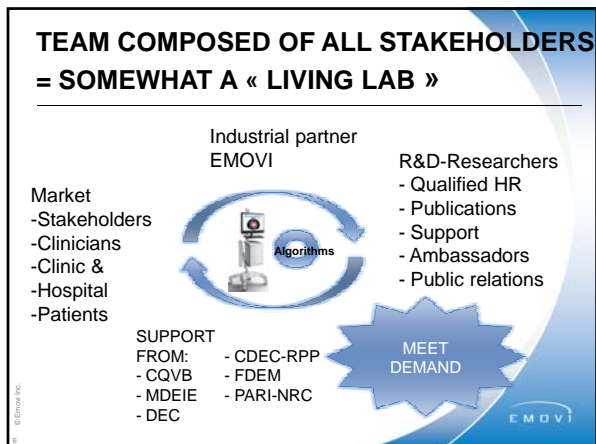
- It is ready to be marketed!
- Will change the way physicians treat patients
- Far Far Away from market

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First challenge: technology push

- Validated (accuracy, reproducibility of 3D Knee movement) with Strong Peer Reviewed Papers
- Physicians could not read results
- Linked to a non transportable capture movement system (heavy technology + costly)
- Regulatory clearance required for "Medical"
- 12 y R&D – many students - files jeopardized
- Market Opportunity limited to Biomedical engineers working with biomechanicians interested in knee joints
- "Hand" Made

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Result: KneeKG™ first and sole device for knee functional assessment

- Dynamic + weight bearing
- 20 min test;
- Patents issued in 5 countries for harness + 1PCT for software
- FDA cleared (USA);
- Health Canada approved
- CE Marking in process (Q4 2011)
- Reimbursement Strategy: Ex USA
 - 2 CPT Codes (Medicare) identified = approx. \$ 200
 - Workers' compensation program
 - Pay back for a clinic: 2 to 5 years

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Competitors : "Indirect"

REQUIRED FEATURES	KneeKG	Gait lab (universities)	MRI	X-Ray	Laxity (KT-1000)
Clinically Accessible	✓	No	✓	✓	✓
Accuracy	✓	✓	✓	✓	No
3D data	✓	✓	✓	No	No
Dynamic	✓	✓	No	No	No
All planes of movement	✓	✓	No	No	No
Fast	✓ 20min	No 3-6 hrs	✓	✓	✓
Low Cost	✓	No	No	✓	✓

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SECOND CHALLENGE: SALES

	Orthopedic surgeons	Specialized Physicians (sport medicine, rheumatology)	Family Doctors
Current practice	Function is estimated	Pain management oriented	Referrals
Why KneeKG	For surgical planning + post op follow ups	Alternative to pain management approach Allow multi-modalities	Optimise screening-
Documented Benefits Harvard, Boston, Pittsburgh, British Columbia, Sydney and others	To consistently and accurately evaluate joint To quantify the impact of ligament injuries and surgical treatment For research: surgical techniques, choice/design of implants	To provide effective treatment To control/monitor progression of KneeOA To monitor impact of injury To prevent secondary injuries	Less expensive than MRI Optimise screening Optimise use of specialists Avoid trials and errors
	<ul style="list-style-type: none"> 4-6% increases/year overall in terms of knee assessment 525% increase of total knee replacements by 2030 400% increase of knee injuries since 1999 to continue increasing 		

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Who would buy?

✓ 4,6 B Market opportunity

LUMINARY SITES IN ORTHOPEDICS (Orthopedic department in clinics and hospitals + in university research centers) 2000 centers

ORTHOPEDIC AND SPORT MED CLINICS
20 000 Orthopedic surgeons in USA alone

KNEE OSTEOARTHRITIS

SPORT INJURIES

OUR TARGET
- 150 KNEEKG / 2016

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LIVING LAB MODEL CONTINUES

FDA Cleared- Commercialised

Add-ons in development

- Functional score pre/post surgery
- Diagnostic application (Dx)
- Fusion Imaging

Patent pending (PCT phase)

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For Repeat business + ↑ Market %

✓ Multi Billion Market

**KNEE
OSTEOARTHRITIS
SPORT INJURIES**

**ORTHOPEDIC AND
SPORT MED CLINICS**
20 000 Orthopedic
surgeons in USA alone

Family Doctors
900 000 in USA Alone
8% of practice = Knee

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RESULT: A Strong Business Model

Sale the platform
at low price

Generate additional
revenues out of:

- Add-ons
- Maintenance fees
- Training
- Velcro Straps
- Specific well
defined add-ons
will be OEM

Distributors - regional

One client = more than
one KneekG (repeat
business)

(good margin on platform + initial software
excellent margin on add. softwares)

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Results: sales and marketing

- Ready for PO/sales made
- Interest confirmed- financing under preparation
- Interest confirmed
- Distributors- agreement in discussion
- Orthopedic companies (approached)

Living Lab Model

Working with
Luminary Sites

5 units
already sold

Leading to qualified
leads, distributors,
network

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Key elements

- People
- Build trust
- Openness- Innovative approach
 - the LIO (Laboratoire d'imagerie et d'orthopédie of the ETS & CHUM research center) has went through the ISO process after our technology transfer, and
....is now ISO:13485 LAB certified!
- This will attract many companies who wish to market results of university research - M D V I

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Thank you

Michelle Laflamme, CEO
Emovi inc.
3095 Aut. Laval Ouest, 2nd
Laval, Québec
Canada, H7P 4W5
Tel: 1-514-907-6296
Web site: www.emovi.ca

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