

**AFA**

**A**SSOCIATION  
**F**RANCAISE POUR L'  
**A**PPAREILLAGE

Agrément formation n° 11752965575

**ANPAN**

Association Médicale de  
Perfectionnement en Appareillage  
Nationale

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## **CLERMONT FERRAND 2018**





# WANDERCRAFT

ORDINARY LIFE FOR EXTRAORDINARY PEOPLE

Making Wheelchair Users Walk Again

Presentation to AFA-AMPAN, June 2018

30+ million persons

Struggling for activities of daily living, 3 times less access to jobs and education

Struggling with severe diseases associated with wheelchair sedentariness

All with one life priority: to improve their

**Health**



**Autonomy**





## Health

### More effective inpatient therapeutics

1. **Realistic gait** for effective rehabilitation
2. **Dose:** repetition + intensity / efficacy
3. **Autonomy** perspective
4. **Pursue treatment** as outpatient



## Autonomy

### Daily life + outpatient therapeutics

1. **Stable realistic walk** to be truly autonomous
2. **Safe several hours** / day
3. **Urban obstacles** handling
4. **Pursue treatment** as outpatient

*Sources: Wandercraft Scientific Committee, User Group, patient associations, patient interviews, seminars, interviews of Rehab Centers including CMPR APAJH Pionsat, Hopale Jacques-Calvé, CM Kerpape, CHU Lille, CHU Henri-Mondor, Villa Beretta, Royal Buckinghamshire Hospital, Barrow Dignity Health, Shirley Ryan Ability Lab and Chicago Rehab, COS Bobigny, Hopital Foch, Clinalliance, Clinique La Chataigneraie, Pasori, Stell, St Martin, Institut de Myologie*



Dynamic robotics allow to stabilize bipeds managing permanent unbalance.

Require complex algorithmics, mechatronics and mechanics, not available 10 years ago.

Wandercraft is today the only commercial company mastering these technologies



# 2018 Rehabilitation Center device, 2020 Personal exo

## Health



## Autonomy

Rehab Center version  
 End-2018 CE mark and sales  
 Disrupt rehab treatments

Personal version  
 2020 CE marking  
 Change lives of wheelchair users

**Autonomous, hands-free**

**Realistic walk**

**High dose, frequent use**

**Pursue as outpatient**

**Daily living urban use**

*Sidewalk, staircase, car compatibility, superbalance, protect & recover, consumer-grade design and UX*














*Proven patient tolerance several hours / day  
 Donning / doffing < 5mn  
 Still bulky but acceptable to Rehab Centers  
 Short stride to accommodate patients joint restrictions*

*Sleeker version, consumer-grade UX*

## 2017 pre-production prototype delivered 1st autonomous walk in clinical trials

2017 Clinical trials : safety and performance, 10 SCI patients ASIA A-B



2017 prototype achieved **world-premiere standing up and walking**

**Yet gait was rough with foot thudding,** excessive torso swing and forward leaning

Intensive work with therapists led to improved 2018 exo to be CE marked.



# 2018 production exo: improved gait and balance, work in progress



*Pilot is an engineer, not a patient, 2018 version*





2017	Stands up, walks, sits, hands-free	Clinical pilot trial with 10 complete SCI patients
H1 2018	Improved gait	Clinical trials
H2 2018	Realistic gait with longer stride	CE marking
		Distribution to Rehab Centers
2019	Assist + resist, therapist in the loop	Clinical plan: post-stroke, neuromuscular pathologies, clinical proofs
	Tests of Personal version	Reimbursement schemes
2020	Personal version	
	Kids, Elderly	