



FPD Recycling

SAFE & PROFITABLE FLAT PANEL DISPLAY RECYCLING

Are you maximising returns
in how you recycle laptops,
monitors and TV's?

WHY WE DO IT

To tackle the mounting FPD disposal issue

To enable countries to be self-sufficient in dealing with e-waste

To protect developing countries from illegal dumping and imports

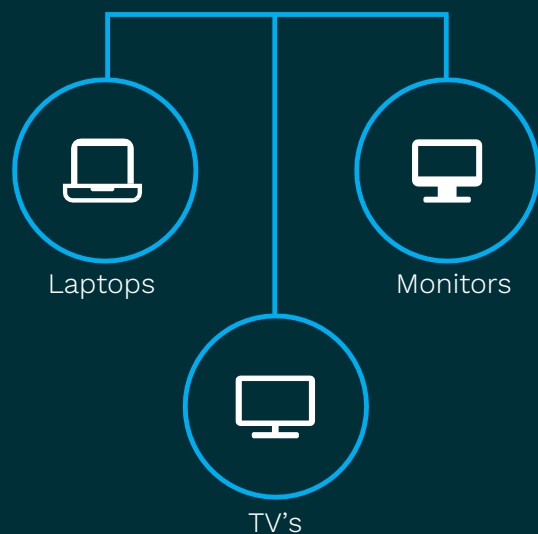
To make a real impact in plugging leaks to the circular economy

To provide stable business future for our team and our customers

To be pioneer of the Artificial Intelligence in the recycling industry

WHAT WE DO

FPD Recycling™ builds complete FPD depollution packages that deliver a safe and efficient process, ensuring an exceptional ROI



HOW WE DO IT

OUR TECHNICAL APPROACH

- ▶ Using proven equipment ensuring the latest recycling technology is reliable and affordable
- ▶ Artificial Intelligence (AI) for smart de-manufacture and safe depollution
- ▶ Global managed service agreements to guarantee your **FPD Pro™** is always available
- ▶ Trained and skilled in-house engineering capability
- ▶ Remote monitoring and continuous diagnostics to achieve the maximum availability



OUR BUSINESS APPROACH

- ▶ We configure a business solution to fit your needs
- ▶ We partner with global equipment manufacturers
- ▶ We offer purchase or lease options to suit your business model
- ▶ We provide full maintenance of the **FPD Pro™**
- ▶ We offer a 10 year service contract





THE GLOBAL PROBLEM

Current FPDs manual disassembly recycling methods, due to hazardous materials and extensive labour requirements - are inefficient, costly and detrimental to the environment.

A critical change in the approach is needed to meet legislation and regulations recycling percentage requirements (currently 80%) and plug the holes in the circular economy.

ISSUES FACING GLOBAL RECYCLERS

- ▶ Employee Safety Risk
- ▶ Environmental Damage
- ▶ Lost Critical Raw Materials
- ▶ Lost Revenue from Fractions
- ▶ Increasing Labour Costs
- ▶ Noncompliance with Regulation
- ▶ Inefficient Practices
- ▶ Higher Insurance Premiums
- ▶ Poor availability of suitable staff
- ▶ Increased employment costs and legislation

THE CURRENT OPTIONS AVAILABLE TO RECYCLERS FOR WASTE FPDs

1. Manual disassembly

- | Unsafe
- | Inefficient: 3-5 FPDs per hour
- | Unscalable manual process
- | Very costly

2. Ship to a specialist processor

- | Costly
- | Significant loss of revenue from lost fractions
- | Difficulty of Transport of FPDs
- | Noncompliance with Regulation/Legislation

3. Direct shred

- | Inefficient in the extraction of materials
- | Results in loss of critical materials
- | Legislation & compliance issues
- | No end market for shredded material

MARKET FORCES

Growing Market and stock piling of FPD's

Changing legislations and harsh penalties for non-compliance

Addressing the FPD e-waste today and not deferring like the CRT glass issues

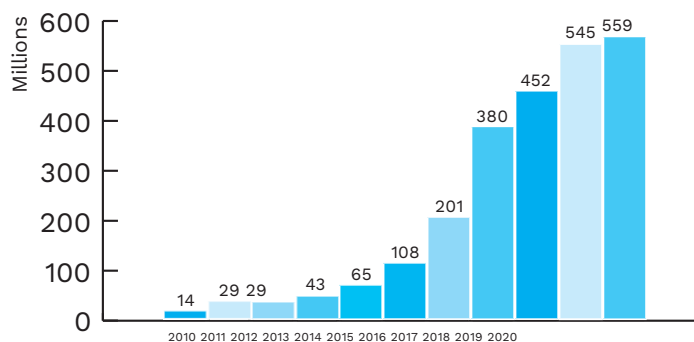
Life expectancy of FPD's and getting shorter

Legislation and enforcement of current laws

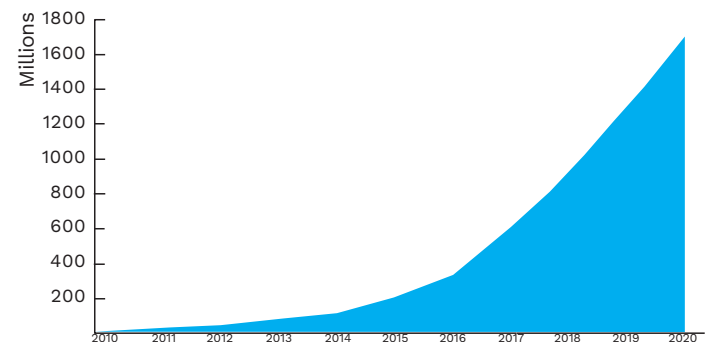
Countries to deal with their own e-waste

FPD manufacturers want to understand the full lifecycle of their products

FPD DISPOSAL TREND

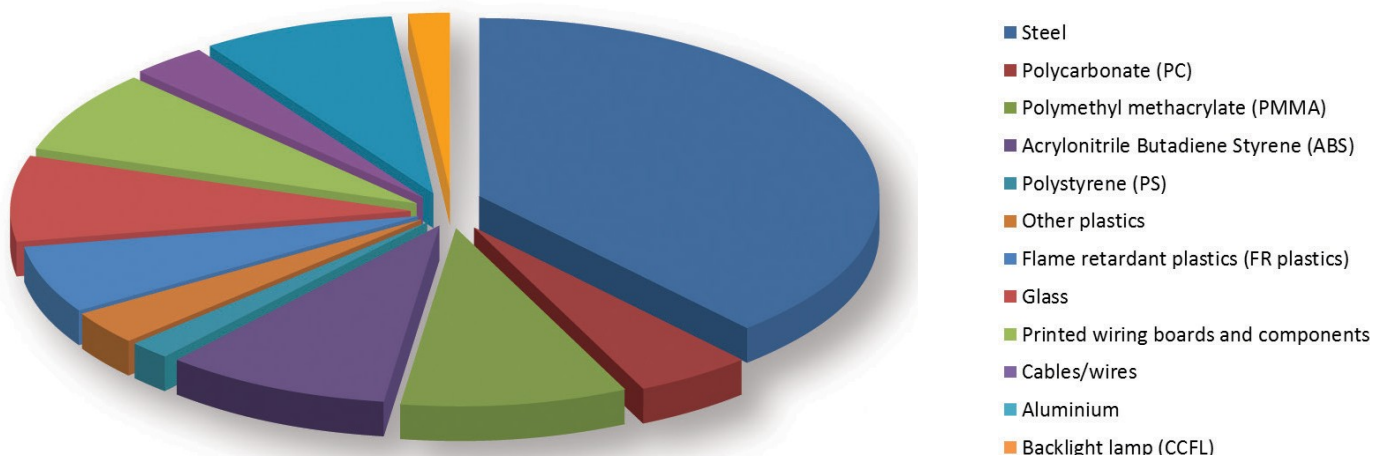


CUMULATIVE UNRECYCLED FPDS



Note: this is cumulative excluding the 35% of currently being recycled.

FPD MATERIAL BREAKDOWN



THE SOLUTION: FPD PRO™

THE FPD PRO™ HAS THE LOWEST OPERATIONAL COSTS IN THE MARKET

- ▶ Enables recyclers to be compliant with national legislation
- ▶ Full containment of hazardous waste within the **FPD Pro™**
- ▶ The only fully automated technology on the market that deals with a range of laptops, TVs and computer monitors
- ▶ The only market technology that identifies and weighs the FPD and creates bespoke reports
- ▶ Safe and easy to operate
- ▶ High material recovery rates >80%
- ▶ Maximises returns for the recycler
- ▶ Compact design to fit into existing recycling facilities
- ▶ Remote Monitoring and diagnostics
- ▶ Lowest Operation cost on the market

FPD PRO™ EFFICIENCY

60+

screens per
hour

7,500

available
operating hours

10kW **>80%**

Low operational
cost

High Recovery
Rate

Inbuilt Operator
Safety

Single Operator
Required



TECHNOLOGY SPECIFICATIONS

THE FPD PRO™ HAS A UNIQUE COMBINATION OF PROVEN TECHNOLOGY AND CUTTING EDGE INNOVATION!

LCD SIZE RANGE	11" to 70"
FPD PRO™ SIZE (m)	7(L) x 7(W) x 5(H)
OPERATING TEMP	+5c to 40c
ELECTRICAL SUPPLY	400V – 480V
ELECTRICAL CONNECTION	3 Phase and earth
FREQUENCY	50Hz/60Hz
PROCESS RATE	> 60 FPDs per/hr
OPERATORS	1 to run machine
INTERNET CONNECTION	minimum CAT5, 5Mb/s
COMPRESSED AIR	6.5 bar
RUGGED DESIGN	IP65

Note: Process speed is based on 32" FPDs. Equipment specification subject to change.

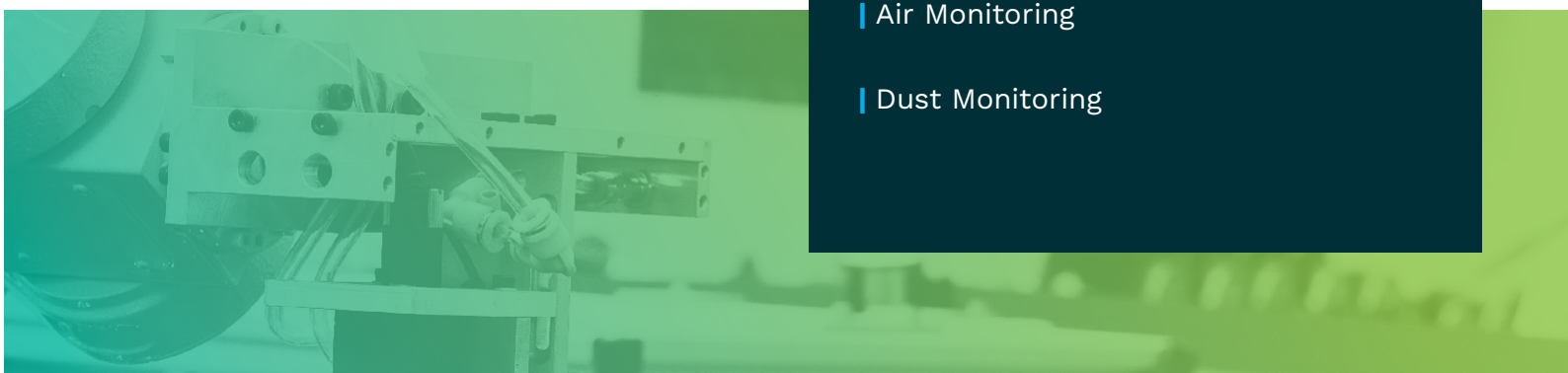
THE FPD PRO™ IS DESIGNED TO ASSIST RECYCLERS MEET THE REQUIREMENTS OF THE WEEE DIRECTIVE (2002/96/EC)

- ▶ EN 50625 2-2: Treatment for CRT and FPDs 2015
- ▶ EN 50625 3-1: General depollution
- ▶ EN 50625 3-3: Depollution specification for CRTs & FPDs
- ▶ WEEE Directive compliant (2018 recycling targets)
- ▶ CE/UL certificated
- ▶ European Machinery Directive (2006/42/EC)

FPD RECYCLING™ ARE BRINGING ARTIFICIAL INTELLIGENCE (AI) TO THE RECYCLING INDUSTRY TO ENSURE FIXED COST PROCESSING

ADDITIONAL OPTIONS:

- | Continuous mercury monitoring
- | Engineering for integration to current processes
- | Weighing of all product
- | Identification of FPD manufacturers
- | Air Monitoring
- | Dust Monitoring





CONTACT

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