SMART data collection and inte**GR**ation platform to enhance availability and accessibility of data and inf**O**rmation in the E**U** territory on Seco**ND**ary Raw Materials

Stuart Wagland

School of Water, Energy and Environment, Cranfield University

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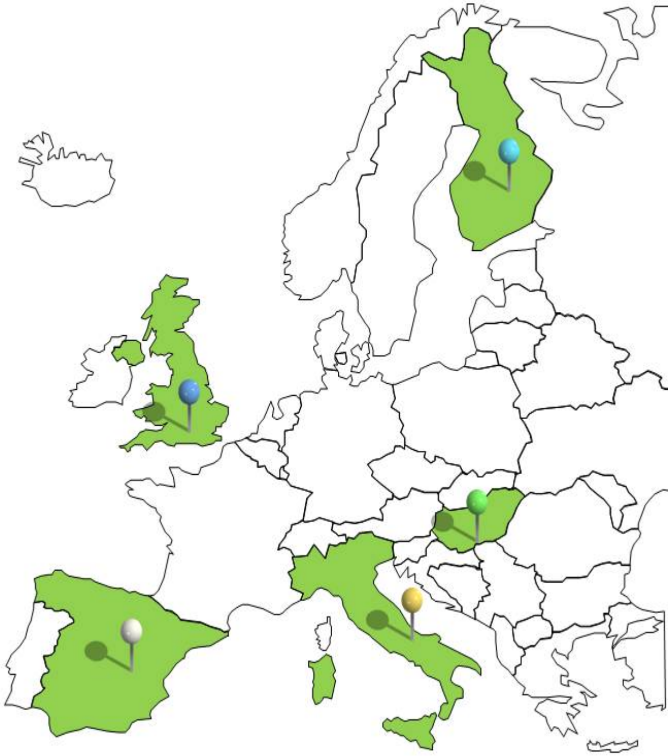
1. SMART GROUND ID

- Project Start Date: 01 October 2015

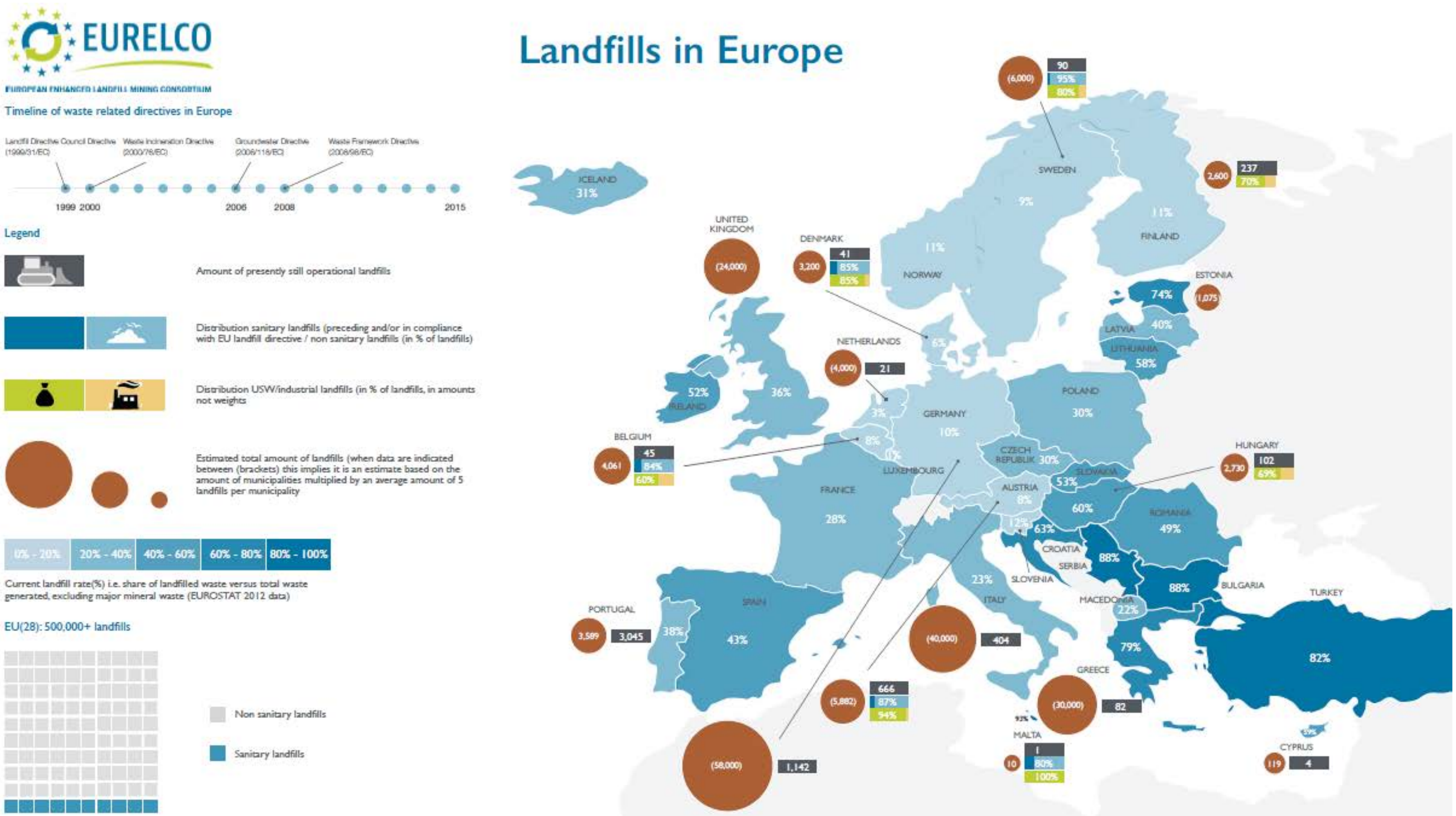
- Project Duration: 30 Months
- Total Budget: 2.5 Mln

- EC contribution: 100%

- 14 Partners from 5 EU countries
- H2020 - Waste 4c - 2014



Enormous number of operational landfills



3. SMART GROUND Objectives

To Collect	• *Quantitative and structural knowledge from existing SRM*
To Integrate and Harmonize	• *The data and information collected*
To Identify	• *The most promising markets*
To Evaluate	• *The environmental, economic and social impacts triggered by different processes*
To Analyze	• *The existing legislation at EU and national level on waste management and diffusion of best practices*
To Support	• *The social recognizability of the positive impact of dumps exploitation to obtain SRM among citizens & policy makers*
To Build up a Secondary Raw Materials Inventory	• *SMART GROUND Database*

4. Circular Economy Approach: *“Closing the loop”*

- **Recycling 65% of municipal waste** by 2030
- **Recycling 75% of packaging waste** by 2030
- **Reduction of landfill to maximum of 10%**

 of municipal waste by 2030

- **Ban on landfilling** of separately collected waste
- **Promotion** of economic instruments **to discourage**

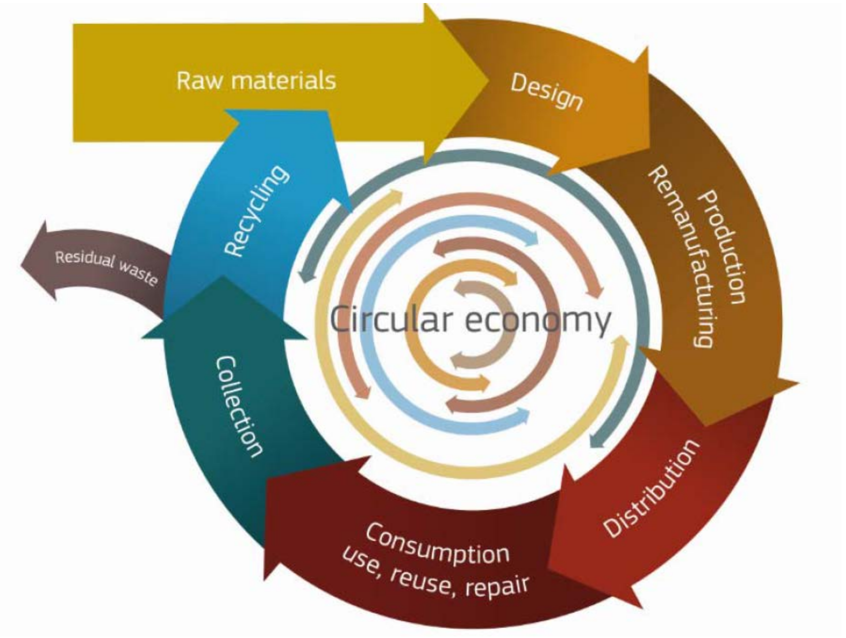
landfilling

- **Simplified and improved definitions and**

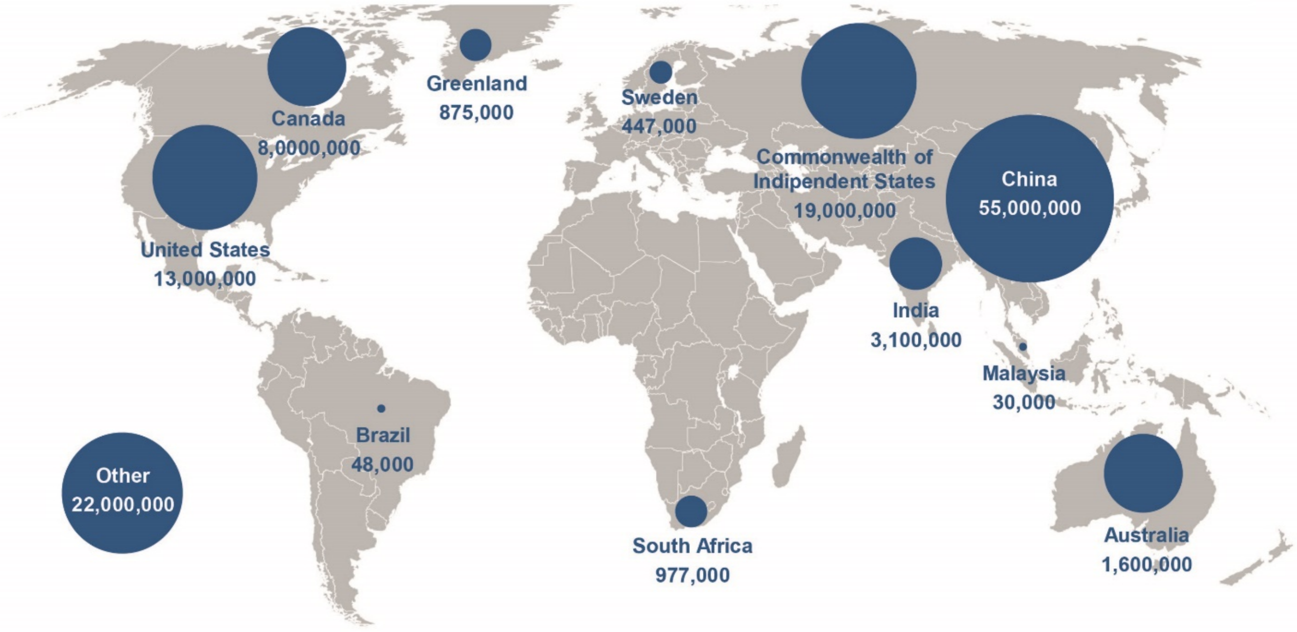
Harmonised calculation methods for recycling rates throughout the EU;

- **Promote re-use and stimulate industrial symbiosis** –

 turning one industry's by-product into another industry's raw material.

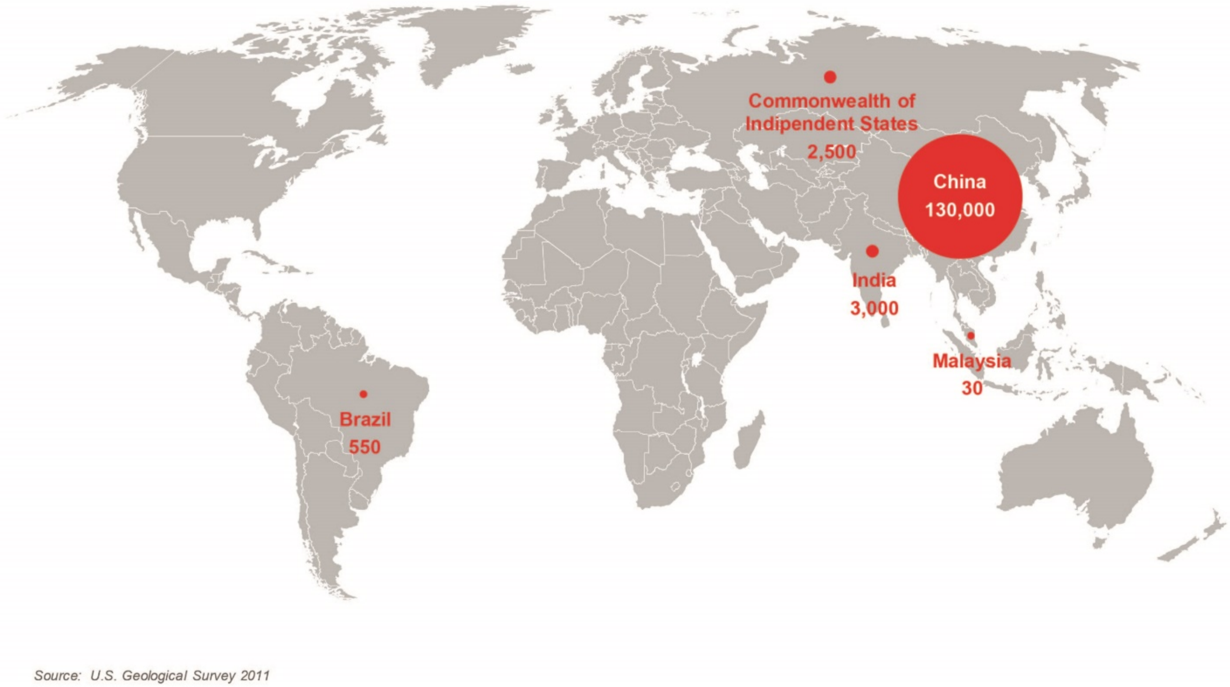


World resources of REE

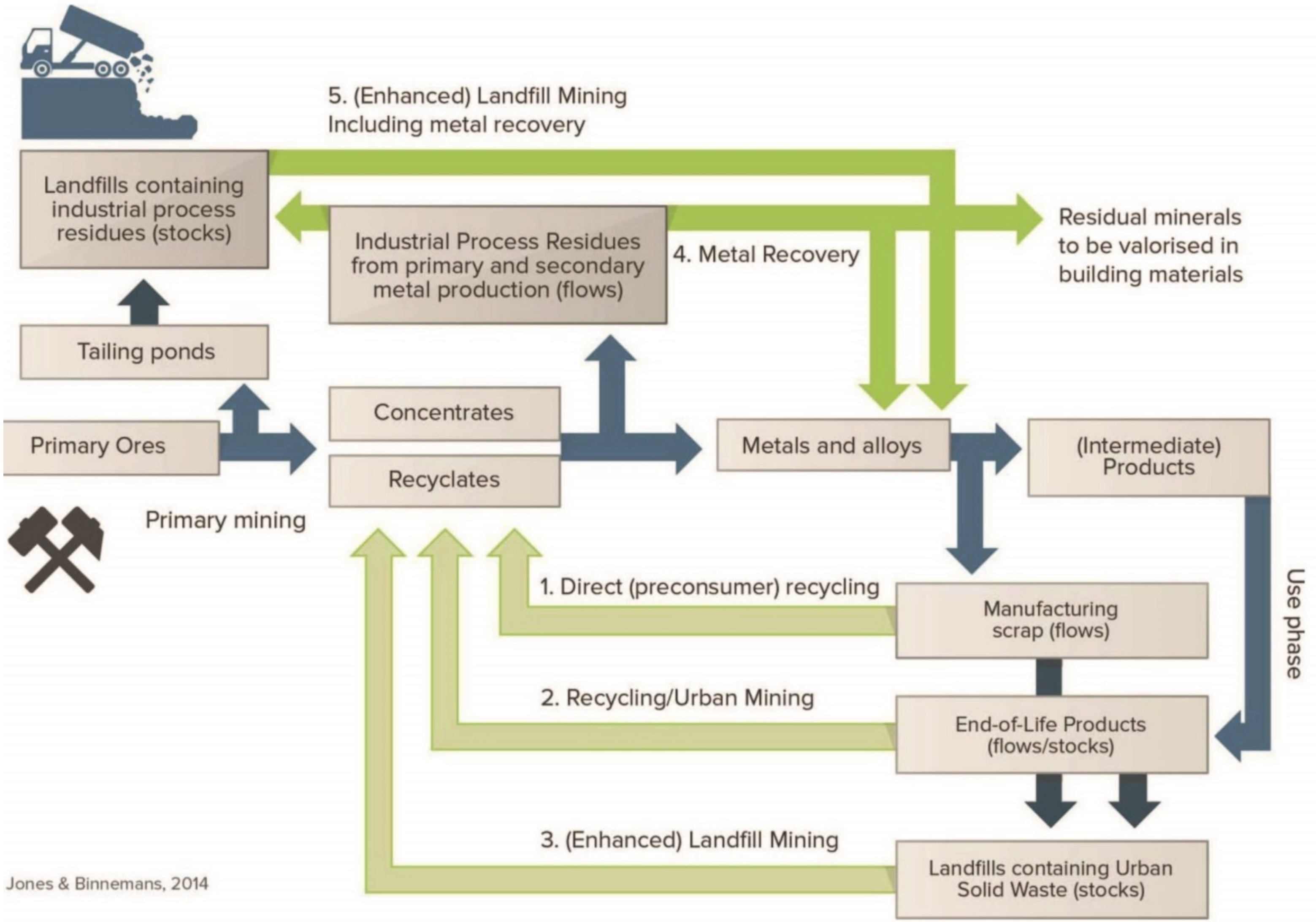


Source: U.S. Geological Survey 2011

World Production of REE



Mining Europe - from waste to profit



5. Waste Relevant for SMART GROUND

	Total	Mining and quarrying	Manufacturing	Energy	Construction and demolition	Other economic activities	Households
EU-28	2 515 110	733 980	269 690	96 480	821 160	380 390	213 410
Belgium	67 630	115	17 736	1 314	24 570	18 891	5 004
Bulgaria	161 252	141 083	3 009	9 533	1 033	3 841	2 755
Czech Republic	23 171	167	4 376	1 063	8 593	5 739	3 233
Denmark	16 332	18	1 610	893	3 867	6 216	3 727
Germany	368 022	8 625	56 596	8 050	197 528	60 752	36 472
Estonia	21 992	9 355	4 121	6 258	657	1 165	436
Ireland	13 421	2 025	4 599	396	366	4 379	1 657
Greece	72 328	47 832	4 183	12 259	813	2 383	4 859
Spain	118 562	22 509	14 594	5 772	26 129	28 333	21 224
France	344 732	2 477	21 431	2 100	246 702	42 024	29 996
Croatia	3 379	6	425	108	682	968	1 191
Italy	162 765	720	34 142	3 616	52 966	41 708	[illegible]
Cyprus	2 086	38	98	2	965	353	451
Latvia	2 310	2	396	133	8	558	1 012
Lithuania	5 679	26	2 551	29	419	1 477	1 177
Luxembourg	8 397	131	509	2	7 079	426	249
Hungary	16 310	91	2 991	2 872	4 038	3 638	2 681
Malta	1 452	45	9	2	1 041	201	155
Netherlands	123 613	179	14 115	1 342	91 354	17 758	8 864
Austria	34 047	51	3 636	622	9 771	6 247	4 020
Poland	163 378	68 035	31 135	20 706	15 368	18 809	9 324
Portugal	14 184	243	3 188	422	928	4 672	4 731
Romania	266 976	223 293	6 029	9 043	1 325	22 638	4 647
Slovenia	4 547	14	1 345	1 069	535	941	641
Slovakia	8 425	311	2 516	1 046	806	2 090	1 657
Finland	91 824	52 880	14 531	1 011	16 034	5 635	1 734
Sweden	156 367	129 481	6 218	1 852	7 656	6 967	4 193
United Kingdom	241 922	24 044	13 596	4 965	100 230	71 580	27 506
Iceland	529	0	93	2	11	191	233
Liechtenstein	467	29	12	0	107	2	316
Norway	10 721	470	2 639	89	1 881	3 205	2 438
Montenegro	386	1	33	351	0	0	0
FYR of Macedonia	8 472	802	1 304	6	0	6 360	0
Serbia	55 003	47 896	760	5 744	364	238	0
Turkey	1 013 226	950 587	13 141	18 424	0	289	30 785
Bosnia and Herzegovina	4 457	72	1 213	3 171	0	0	0
Kosovo	1 167	177	80	151	0	268	490

Source: Eurostat (online data code: env_wasgen)

29%

32%

9%

6. Characterization of Pilot Sites

- Construction & Demolition Waste
- Municipal Waste

- Mining waste

SMART GROUND Methodology:

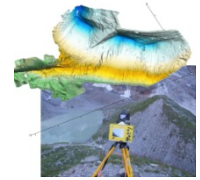
1. To collect information about landfill and SRM flows: number of closed/active landfills, types & ages

2. To collect the indicators from landfills and Research Plants

3. Quantitative indicators related to the investments & economical utilization of SRM: actual research, sampling & laboratories analysis to verify the potential of the landfills. Contacts with operators or associations to guarantee co-operation.

Unique user-friendly database

SMART GROUND



Cartography-satellite imagery

Reports & Statistics

Advanced Search & Retrieval

Data from EU Open Database INSPIRE & ISO Compliant

9. SMART GROUND Market Place & Needs Fulfilled

MARKET PLACE

Constructors and civil engineering:
Identify companies that provide recycled materials for construction.

Legislators:
Decision making for evaluating feasibility from environmental point of view
Regulatory compliance and regulation adaptation

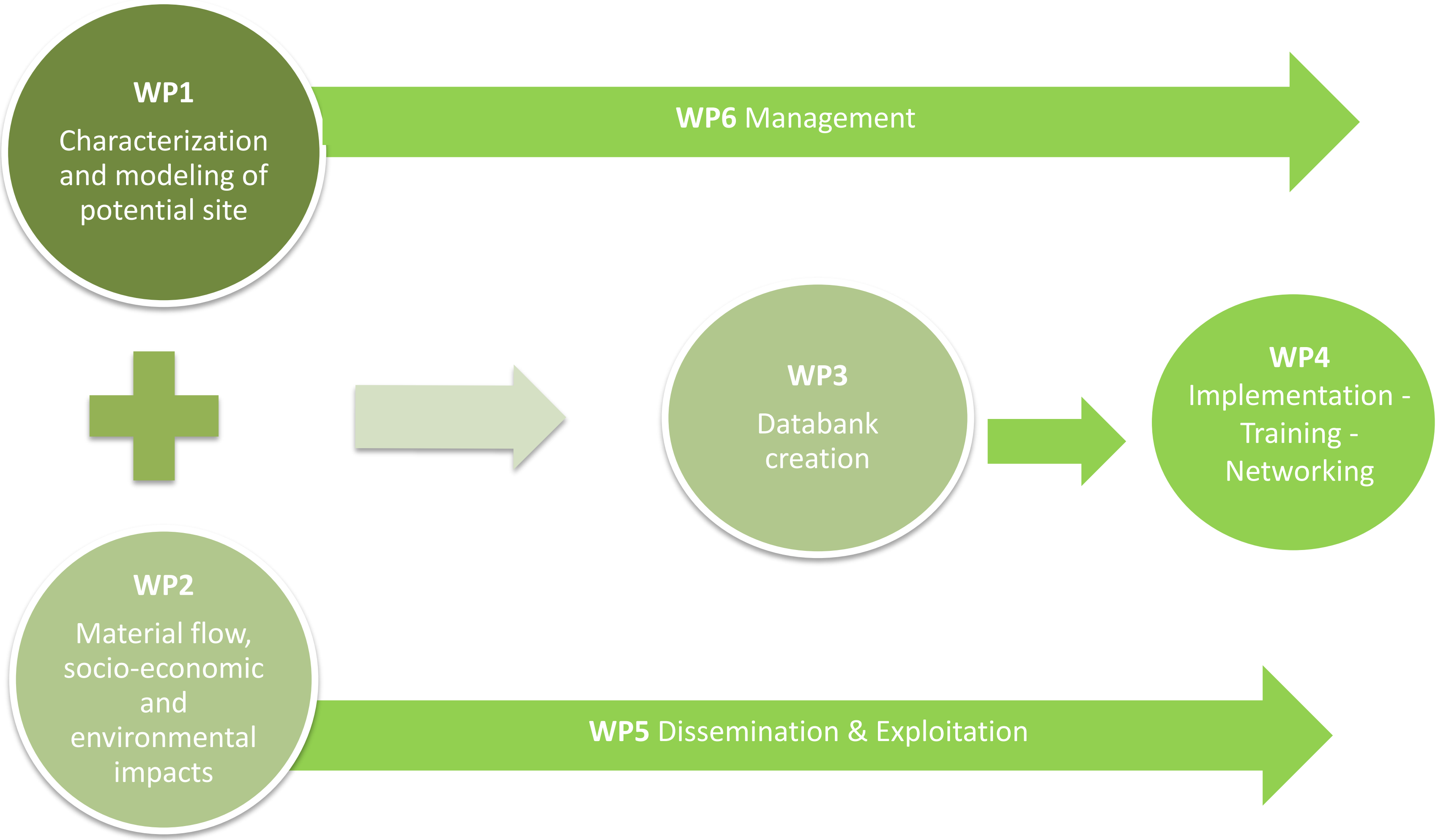
Citizens:
More transparency and access to general information about landfill mining and its evolution
Provide data for their statistics

Decision makers:
Decision making for evaluating feasibility from environmental and financial point of view
Offer their available SRM, consult the price of SRM of other landfills, and identify potential demand and recycling companies
Optimise extraction and mining operations

Academia:
Find suitable data to feed their analysis and research
To easy the exchange of experiences, knowledge and results
To spread the results of their research
Students: find information and data to develop their works and research work at college

Managers of waste recycling companies:
Find suitable waste material provider.

10. WP Structure



SMART GROUND

enco
engineering & consulting

MAMK
University of Applied Sciences

GTK

Metsäsairila Oy

PÉCSI TUDOMÁNYEGYETEM
UNIVERSITY OF PÉCS

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www.smart-ground.eu

Project Coordinator
Marco de la Feld
ENCO s.r.l.
m.delafeld@enco-consulting.it