



ARTICLE 43 — REDUCTION OF THE GRANT

43.1 Conditions

43.1.1 The *Agency* may — **at the payment of the balance or afterwards** — reduce the maximum grant amount (see Article 5.1), if the action has not been implemented properly as described in Annex 1 or another obligation under the Agreement has been breached.

43.1.2 The *Agency* may also reduce the maximum grant amount on the basis of the **extension of findings from other grants to this grant**, under the conditions set out in Article 22.5.2.

43.2 Amount to be reduced — Calculation — Procedure

The amount of the reduction will be proportionate to the improper implementation of the action or to the seriousness of the breach.

Before reduction of the grant, the *Agency* will formally notify a ‘**pre-information letter**’ to the coordinator or beneficiary concerned:

- informing it of its intention to reduce the grant, the amount it intends to reduce and the reasons why and
- inviting it to submit observations within 30 days of receiving notification

If the *Agency* does not receive any observations or decides to pursue reduction despite the observations it has received, it will formally notify **confirmation** of the reduction (if applicable, together with the notification of amounts due; see Article 21).

43.3 Effects

If the *Agency* reduces the grant at the time of **the payment of the balance**, it will calculate the reduced grant amount for the action and then determine the amount due as payment of the balance (see Articles 5.3.4 and 21.4).

If the *Agency* reduces the grant **after the payment of the balance**, it will calculate the revised final grant amount for the beneficiary concerned (see Article 5.4). If the revised final grant amount for the beneficiary concerned is lower than its share of the final grant amount, the *Agency* will recover the difference (see Article 44).

ARTICLE 44 — RECOVERY OF UNDUE AMOUNTS

44.1 Amount to be recovered — Calculation — Procedure

The *Agency* will — after **termination of the participation of a beneficiary, at the payment of the balance or afterwards** — claim back any amount that was paid but is not due under the Agreement.

Each beneficiary’s financial responsibility in case of recovery is limited to its own debt, except for the amount retained for the Guarantee Fund (see Article 21.4).

44.1.1 Recovery after termination of a beneficiary’s participation



If recovery takes place after termination of a beneficiary's participation (including the coordinator), the *Agency* will claim back the undue amount from the beneficiary concerned, by formally notifying it a debit note (see Article 50.2 and 50.3). This note will specify the amount to be recovered, the terms and the date for payment.

If payment is not made by the date specified in the debit note, the *Agency or the Commission* will **recover** the amount:

- (a) by '**offsetting**' it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the *Agency*, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the *Agency* may offset before the payment date specified in the debit note;

- (b) *not applicable*;

- (c) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial regulation No 966/2012.

If payment is not made by the date specified in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the *Agency or the Commission* receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC²⁷ applies.

44.1.2 Recovery at payment of the balance

If the payment of the balance takes the form of a recovery (see Article 21.4), the *Agency* will formally notify a '**pre-information letter**' to the coordinator:

- informing it of its intention to recover, the amount due as the balance and the reasons why;
- specifying that it intends to deduct the amount to be recovered from the amount retained for the Guarantee Fund;
- requesting the coordinator to submit a report on the distribution of payments to the beneficiaries within 30 days of receiving notification, and
- inviting the coordinator to submit observations within 30 days of receiving notification.

²⁷ Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC (OJ L 319, 05.12.2007, p. 1).



If no observations are submitted or the *Agency* decides to pursue recovery despite the observations it has received, it will **confirm recovery** (together with the notification of amounts due; see Article 21.5) and:

- pay the difference between the amount to be recovered and the amount retained for the Guarantee Fund, **if the difference is positive** or
- formally notify to the coordinator a **debit note** for the difference between the amount to be recovered and the amount retained for the Guarantee Fund, **if the difference is negative**. This note will also specify the terms and the date for payment.

If the coordinator does not repay the *Agency* by the date in the debit note and has not submitted the report on the distribution of payments: the *Agency or the Commission* will **recover** the amount set out in the debit note from the coordinator (see below).

If the coordinator does not repay the *Agency* by the date in the debit note, but has submitted the report on the distribution of payments: the *Agency* will:

- (a) identify the beneficiaries for which the amount calculated as follows is negative:

$\{ \{ \{ \text{beneficiary's costs declared in the final summary financial statement and approved by the } \}$
Agency multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned}

divided by

the EU contribution for the action calculated according to Article 5.3.1}

multiplied by

the final grant amount (see Article 5.3)},

minus

{pre-financing and interim payments received by the beneficiary}}.

- (b) formally notify to each beneficiary identified according to point (a) a **debit note** specifying the terms and date for payment. The amount of the debit note is calculated as follows:

{ {amount calculated according to point (a) for the beneficiary concerned

divided by

the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to point (a)}

multiplied by

the amount set out in the debit note formally notified to the coordinator}.

If payment is not made by the date specified in the debit note, the *Agency* will **recover** the amount:



- (a) by ‘**offsetting**’ it — without the beneficiary’s consent — against any amounts owed to the beneficiary concerned by the *Agency*, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU’s financial interests, the *Agency* may offset before the payment date specified in the debit note;

- (b) by **drawing on the Guarantee Fund**. The *Agency or the Commission* will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

(i) *not applicable*;

- (ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the *Agency or the Commission* receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

44.1.3 Recovery of amounts after payment of the balance

If, for a beneficiary, the revised final grant amount (see Article 5.4) is lower than its share of the final grant amount, it must repay the difference to the *Agency*.

The beneficiary’s share of the final grant amount is calculated as follows:

$\{ \{ \text{beneficiary's costs declared in the final summary financial statement and approved by the } \textit{Agency} \text{ multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned} \}$

divided by

the EU contribution for the action calculated according to Article 5.3.1 }

multiplied by

the final grant amount (see Article 5.3) }.

If the coordinator has not distributed amounts received (see Article 21.7), the *Agency* will also recover these amounts.

The *Agency* will formally notify a **pre-information letter** to the beneficiary concerned:

- informing it of its intention to recover, the due amount and the reasons why and



- inviting it to submit observations within 30 days of receiving notification.

If no observations are submitted or the *Agency* decides to pursue recovery despite the observations it has received, it will **confirm** the amount to be recovered and formally notify to the beneficiary concerned a **debit note**. This note will also specify the terms and the date for payment.

If payment is not made by the date specified in the debit note, the *Agency* will **recover** the amount:

- (a) by '**offsetting**' it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the *Agency*, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the *Agency* may offset before the payment date specified in the debit note;

- (b) by **drawing on the Guarantee Fund**. The *Agency or the* Commission will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

- (i) *not applicable*;

- (ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the date for payment in the debit note, up to and including the date the *Agency or the* Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

ARTICLE 45 — ADMINISTRATIVE AND FINANCIAL PENALTIES

45.1 Conditions

Under Articles 109 and 131(4) of the Financial Regulation No 966/2012, the *Agency* may impose **administrative** and **financial penalties** if a beneficiary:

- (a) has committed substantial errors, irregularities or fraud or is in serious breach of its obligations under the Agreement or
- (b) has made false declarations about information required under the Agreement or for the submission of the proposal (or has not supplied such information).

Each beneficiary is responsible for paying the financial penalties imposed on it.



Under Article 109(3) of the Financial Regulation No 966/2012, the *Agency or the Commission* may — under certain conditions and limits — publish decisions imposing administrative or financial penalties.

45.2 Duration — Amount of penalty — Calculation

Administrative penalties exclude the beneficiary from all contracts and grants financed from the EU or Euratom budget for a maximum of five years from the date the infringement is established by the *Agency*.

If the beneficiary commits another infringement within five years of the date the first infringement is established, the *Agency* may extend the exclusion period up to 10 years.

Financial penalties will be between 2% and 10% of the maximum EU contribution indicated, for the beneficiary concerned, in the estimated budget (see Annex 2).

If the beneficiary commits another infringement within five years of the date the first infringement is established, the *Agency* may increase the rate of financial penalties to between 4% and 20%.

45.3 Procedure

Before applying a penalty, the *Agency* will formally notify the beneficiary concerned:

- informing it of its intention to impose a penalty, its duration or amount and the reasons why and
- inviting it to submit observations within 30 days.

If the *Agency* does not receive any observations or decides to impose the penalty despite of observations it has received, it will formally notify **confirmation** of the penalty to the beneficiary concerned and — in case of financial penalties — deduct the penalty from the payment of the balance or formally notify a **debit note**, specifying the amount to be recovered, the terms and the date for payment.

If payment is not made by the date specified in the debit note, the *Agency or the Commission* may **recover** the amount:

- (a) by '**offsetting**' it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the *Agency*, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the *Agency* may offset before the payment date specified in the debit note;

- (b) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the *Agency or the Commission* receives full payment of the amount.



Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

SECTION 2 LIABILITY FOR DAMAGES

ARTICLE 46 — LIABILITY FOR DAMAGES

46.1 Liability of the *Agency*

The *Agency* cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of implementing the Agreement, including for gross negligence.

The *Agency* cannot be held liable for any damage caused by any of the beneficiaries or third parties involved in the action, as a consequence of implementing the Agreement.

46.2 Liability of the beneficiaries

46.2.1 Conditions

Except in case of force majeure (see Article 51), the beneficiaries must compensate the *Agency* for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement.

Each beneficiary is responsible for paying the damages claimed from it.

46.2.2 Amount of damages - Calculation

The amount the *Agency* can claim from a beneficiary will correspond to the damage caused by that beneficiary.

46.2.3 Procedure

Before claiming damages, the *Agency* will formally notify the beneficiary concerned:

- informing it of its intention to claim damages, the amount and the reasons why and
- inviting it to submit observations within 30 days.

If the *Agency* does not receive any observations or decides to claim damages despite the observations it has received, it will formally notify **confirmation** of the claim for damages and a **debit note**, specifying the amount to be recovered, the terms and the date for payment.

If payment is not made by the date specified in the debit note, the *Agency or the Commission* may **recover** the amount:

- (a) by ‘**offsetting**’ it — without the beneficiary’s consent — against any amounts owed to the beneficiary concerned by the *Agency*, the Commission or another executive agency (from the EU or Euratom budget).



In exceptional circumstances, to safeguard the EU's financial interests, the *Agency* may offset before the payment date specified in the debit note;

- (b) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the *Agency or the Commission* receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

SECTION 3 SUSPENSION AND TERMINATION

ARTICLE 47 — SUSPENSION OF PAYMENT DEADLINE

47.1 Conditions

The *Agency* may — at any moment — suspend the payment deadline (see Article 21.2 to 21.4) if a request for payment (see Article 20) cannot be approved because:

- (a) it does not comply with the provisions of the Agreement (see Article 20);
- (b) the technical reports or financial reports have not been submitted or are not complete or additional information is needed, or
- (c) there is doubt about the eligibility of the costs declared in the financial statements and additional checks, reviews, audits or investigations are necessary.

47.2 Procedure

The *Agency* will formally notify the coordinator of the suspension and the reasons why.

The suspension will **take effect** the day notification is sent by the *Agency* (see Article 52).

If the conditions for suspending the payment deadline are no longer met, the suspension will be **lifted** — and the remaining period will resume.

If the suspension exceeds two months, the coordinator may request the *Agency* if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the technical or financial reports (see Article 20) and the revised report or statement is not submitted or was submitted but is



also rejected, the *Agency* may also terminate the Agreement or the participation of the beneficiary (see Article 50.3.1(l)).

ARTICLE 48 — SUSPENSION OF PAYMENTS

48.1 Conditions

The *Agency* may — at any moment — suspend, in whole or in part, the pre-financing payment and interim payments for one or more beneficiaries or the payment of the balance for all beneficiaries, if a beneficiary:

- (a) has committed or is suspected of having committed substantial errors, irregularities, fraud or serious breach of obligations in the award procedure or under this Agreement or
- (b) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2).

48.2 Procedure

Before suspending payments, the *Agency* will formally notify the coordinator:

- informing it of its intention to suspend payments and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If the *Agency* does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify **confirmation** of the suspension. Otherwise, it will formally notify that the suspension procedure is not continued.

The suspension will **take effect** the day the confirmation notification is sent by the *Agency*.

If the conditions for resuming payments are met, the suspension will be **lifted**. The *Agency* will formally notify the coordinator.

During the suspension, the periodic report(s) (see Article 20.3) must not contain any individual financial statements from the beneficiary concerned. When the *Agency* resumes payments, the coordinator may include them in the next periodic report.

The beneficiaries may suspend implementation of the action (see Article 49.1) or terminate the Agreement or the participation of the beneficiary concerned (see Article 50.1 and 50.2).

ARTICLE 49 — SUSPENSION OF THE ACTION IMPLEMENTATION

49.1 Suspension of the action implementation, by the beneficiaries

49.1.1 Conditions

The beneficiaries may suspend implementation of the action or any part of it, if exceptional circumstances — in particular *force majeure* (see Article 51) — make implementation impossible or excessively difficult.



49.1.2 Procedure

The coordinator must immediately formally notify to the *Agency* the suspension (see Article 52), stating:

- the reasons why and
- the expected date of resumption.

The suspension will **take effect** the day this notification is received by the *Agency*.

Once circumstances allow for implementation to resume, the coordinator must immediately formally notify the *Agency* and request an **amendment** of the Agreement to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement or the participation of a beneficiary has been terminated (see Article 50).

The suspension will be **lifted** with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension of the action implementation are not eligible (see Article 6).

49.2 Suspension of the action implementation, by the *Agency*

49.2.1 Conditions

The *Agency* may suspend implementation of the action or any part of it:

- (a) if a beneficiary has committed or is suspected of having committed substantial errors, irregularities, fraud or serious breach of obligations in the award procedure or under this Agreement;
- (b) if a beneficiary has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2), or
- (c) if the action is suspected of having lost its scientific or technological relevance.

49.2.2 Procedure

Before suspending implementation of the action, the *Agency* will formally notify the coordinator:

- informing it of its intention to suspend the implementation and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If the *Agency* does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify **confirmation** of the suspension. Otherwise, it will formally notify that the procedure is not continued.

The suspension will **take effect** five days after confirmation notification is received by the coordinator (or on a later date specified in the notification).

It will be **lifted** if the conditions for resuming implementation of the action are met.

The coordinator will be formally notified of the lifting and the Agreement will be **amended** to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement has already been terminated (see Article 50).

The suspension will be lifted with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension are not eligible (see Article 6).

The beneficiaries may not claim damages due to suspension by the *Agency* (see Article 46).

Suspension of the action implementation does not affect the *Agency's* right to terminate the Agreement or participation of a beneficiary (see Article 50), reduce the grant or recover amounts unduly paid (see Articles 43 and 44).

ARTICLE 50 — TERMINATION OF THE AGREEMENT OR OF THE PARTICIPATION OF ONE OR MORE BENEFICIARIES

50.1 Termination of the Agreement by the beneficiaries

50.1.1 Conditions and procedure

The beneficiaries may terminate the Agreement.

The coordinator must formally notify termination to the *Agency* (see Article 52), stating:

- the reasons why and
- the date the termination will take effect. This date must be after the notification.

If no reasons are given or if the *Agency* considers the reasons do not justify termination, the Agreement will be considered to have been '**terminated improperly**'.

The termination will **take effect** on the day specified in the notification.

50.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit:

- (i) a periodic report (for the open reporting period until termination; see Article 20.3) and
- (ii) the final report (see Article 20.4).

If the *Agency* does not receive the reports within the deadline (see above), only costs which are included in an approved periodic report will be taken into account.

The *Agency* will **calculate** the final grant amount (see Article 5.3) and the balance (see Article 21.4) on the basis of the reports submitted. Only costs incurred until termination are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.



Improper termination may lead to a reduction of the grant (see Article 43).

After termination, the beneficiaries' obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38 and 40) continue to apply.

50.2 Termination of the participation of one or more beneficiaries, by the beneficiaries

50.2.1 Conditions and procedure

The participation of one or more beneficiaries may be terminated by the coordinator, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must formally notify termination to the *Agency* (see Article 52) and inform the beneficiary concerned.

If the coordinator's participation is terminated without its agreement, the formal notification must be done by another beneficiary (acting on behalf of the other beneficiaries).

The notification must include:

- the reasons why;
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing);
- the date the termination takes effect. This date must be after the notification, and
- a request for amendment (see Article 55), with a proposal for reallocation of the tasks and the estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination takes effect after the period set out in Article 3, no request for amendment must be included unless the beneficiary concerned is the coordinator. In this case, the request for amendment must propose a new coordinator.

If this information is not given or if the *Agency* considers that the reasons do not justify termination, the participation will be considered to have been **terminated improperly**.

The termination will **take effect** on the day specified in the notification.

50.2.2 Effects

The coordinator must — within 30 days from when termination takes effect — submit:

- (i) a report on the distribution of payments to the beneficiary concerned and
- (ii) if termination takes effect during the period set out in Article 3, a '**termination report**' from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, an overview of the use of resources, the individual financial statement and, if applicable, the certificate on the financial statement (see Articles 20.3 and 20.4).

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 20.3).



If the request for amendment is rejected by the *Agency*, (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the *Agency*, the Agreement is **amended** to introduce the necessary changes (see Article 55).

The *Agency* will **calculate** — on the basis of the periodic reports, the termination report and the report on the distribution of payments — if the (pre-financing and interim) payments received by the beneficiary concerned exceed the beneficiary's EU contribution (calculated by applying the reimbursement rate(s) to the eligible costs declared by the beneficiary and approved by the *Agency*). Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

- If the payments received **exceed the amounts due**:
 - if termination takes effect during the period set out in Article 3 and the request for amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The *Agency* will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the *Agency* will draw upon the Guarantee Fund to pay the coordinator and then notify a **debit note** on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);
 - in all other cases (in particular if termination takes effect after the period set out in Article 3), the *Agency* will formally notify a **debit note** to the beneficiary concerned. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the *Agency* the amount due and the *Agency* will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);
 - if the beneficiary concerned is the former coordinator, it must repay the new coordinator according to the procedure above, unless:
 - termination is after an interim payment and
 - the former coordinator has not distributed amounts received as pre-financing or interim payments (see Article 21.7).

In this case, the *Agency* will formally notify a **debit note** to the former coordinator. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the *Agency* the amount due. The *Agency* will then pay the new coordinator and notify a debit note on behalf of the Guarantee Fund to the former coordinator (see Article 44).

- If the payments received **do not exceed the amounts due**: amounts owed to the beneficiary concerned will be included in the next interim or final payment.

If the *Agency* does not receive the termination report within the deadline (see above), only costs included in an approved periodic report will be taken into account.



If the *Agency* does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

Improper termination may lead to a reduction of the grant (see Article 43) or termination of the Agreement (see Article 50).

After termination, the concerned beneficiary's obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38 and 40) continue to apply.

50.3 Termination of the Agreement or the participation of one or more beneficiaries, by the *Agency*

50.3.1 Conditions

The *Agency* may terminate the Agreement or the participation of one or more beneficiaries, if:

- (a) one or more beneficiaries do not accede to the Agreement (see Article 56);
- (b) a change to their legal, financial, technical, organisational or ownership situation is likely to substantially affect or delay the implementation of the action or calls into question the decision to award the grant;
- (c) following termination of participation for one or more beneficiaries (see above), the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants (see Article 55);
- (d) implementation of the action is prevented by force majeure (see Article 51) or suspended by the coordinator (see Article 49.1) and either:
 - (i) resumption is impossible, or
 - (ii) the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants;
- (e) a beneficiary is declared bankrupt, being wound up, having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, or is subject to any other similar proceedings or procedures under national law;
- (f) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has been found guilty of professional misconduct, proven by any means;
- (g) a beneficiary does not comply with the applicable national law on taxes and social security;
- (h) the action has lost scientific or technological relevance;
- (i) *not applicable*;
- (j) *not applicable*;



- (k) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed fraud, corruption, or is involved in a criminal organisation, money laundering or any other illegal activity affecting the EU's financial interests;
- (l) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has — in the award procedure or under the Agreement — committed:
 - (i) substantial errors, irregularities, fraud or
 - (ii) serious breach of obligations, including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles;
- (m) a beneficiary has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**'extension of findings from other grants to this grant'**).

50.3.2 Procedure

Before terminating the Agreement or participation of one or more beneficiaries, the *Agency* will formally notify the coordinator:

- informing it of its intention to terminate and the reasons why and
- inviting it, within 30 days of receiving notification, to submit observations and — in case of Point (l.ii) above — to inform the *Agency* of the measures to ensure compliance with the obligations under the Agreement.

If the *Agency* does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify to the coordinator **confirmation** of the termination and the date it will take effect. Otherwise, it will formally notify that the procedure is not continued.

The termination will **take effect**:

- for terminations under Points (b), (c), (e), (g), (h), (j), and (l.ii) above: on the day specified in the notification of the confirmation (see above);
- for terminations under Points (a), (d), (f), (i), (k), (l.i) and (m) above: on the day after the notification of the confirmation is received by the coordinator.

50.3.3 Effects

- (a) for **termination of the Agreement**:

The coordinator must — within 60 days from when termination takes effect — submit:

- (i) a periodic report (for the last open reporting period until termination; see Article 20.3) and
- (ii) a final report (see Article 20.4).



If the Agreement is terminated for breach of the obligation to submit the reports (see Articles 20.8 and 50.3.1(l)), the coordinator may not submit any reports after termination.

If the *Agency* does not receive the reports within the deadline (see above), only costs which are included in an approved periodic report will be taken into account.

The *Agency* will **calculate** the final grant amount (see Article 5.3) and the balance (see Article 21.4) on the basis of the reports submitted. Only costs incurred until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

This does not affect the *Agency's* right to reduce the grant (see Article 43) or to impose administrative and financial penalties (Article 45).

The beneficiaries may not claim damages due to termination by the *Agency* (see Article 46).

After termination, the beneficiaries' obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38 and 40) continue to apply.

(b) for termination of the participation of one or more beneficiaries:

The coordinator must — within 60 days from when termination takes effect — submit:

- (i) a report on the distribution of payments to the beneficiary concerned;
- (ii) a request for amendment (see Article 55), with a proposal for reallocation of the tasks and estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination is notified after the period set out in Article 3, no request for amendment must be submitted unless the beneficiary concerned is the coordinator. In this case the request for amendment must propose a new coordinator, and
- (iii) if termination takes effect during the period set out in Article 3, a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, an overview of the use of resources, the individual financial statement and, if applicable, the certificate on the financial statement (see Article 20).

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 20.3).

If the request for amendment is rejected by the *Agency* (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the *Agency*, the Agreement is **amended** to introduce the necessary changes (see Article 55).



The *Agency* will **calculate** — on the basis of the periodic reports, the termination report and the report on the distribution of payments — if the (pre-financing and interim) payments received by the beneficiary concerned exceed the beneficiary's EU contribution (calculated by applying the reimbursement rate(s) to the eligible costs declared by the beneficiary and approved by the *Agency*). Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

- If the payments received **exceed the amounts due**:
 - if termination takes effect during the period set out in Article 3 and the request for amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The *Agency* will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the *Agency* will draw upon the Guarantee Fund to pay the coordinator and then notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);
 - in all other cases, in particular if termination takes effect after the period set out in Article 3, the *Agency* will formally notify a **debit note** to the beneficiary concerned. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the *Agency* the amount due and the *Agency* will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);
 - if the beneficiary concerned is the former coordinator, it must repay the new coordinator the amount unduly received, unless:
 - termination takes effect after an interim payment and
 - the former coordinator has not distributed amounts received as pre-financing or interim payments (see Article 21.7)

In this case, the *Agency* will formally notify a **debit note** to the former coordinator. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the *Agency* the amount due. The *Agency* will then pay the new coordinator and notify a debit note on behalf of the Guarantee Fund to the former coordinator (see Article 44).

- If the payments received **do not exceed the amounts due**: amounts owed to the beneficiary concerned will be included in the next interim or final payment.

If the *Agency* does not receive the termination report within the deadline (see above), only costs included in an approved periodic report will be taken into account.

If the *Agency* does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned, and that



- the beneficiary concerned must not repay any amount to the coordinator.

After termination, the concerned beneficiary's obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38 and 40) continue to apply.

SECTION 4 FORCE MAJEURE

ARTICLE 51 — FORCE MAJEURE

‘Force majeure’ means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement,
- was unforeseeable, exceptional situation and beyond the parties' control,
- was not due to error or negligence on their part (or on the part of third parties involved in the action), and
- proves to be inevitable in spite of exercising all due diligence.

The following cannot be invoked as force majeure:

- any default of a service, defect in equipment or material or delays in making them available, unless they stem directly from a relevant case of force majeure,
- labour disputes or strikes, or
- financial difficulties.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

The party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

CHAPTER 7 FINAL PROVISIONS

ARTICLE 52 — COMMUNICATION BETWEEN THE PARTIES

52.1 Form and means of communication

Communication under the Agreement (information, requests, submissions, ‘formal notifications’, etc.) must:

- be made in writing and
- bear the number of the Agreement.



Until the payment of the balance: all communication must be made through the electronic exchange system and using the forms and templates provided there.

After the payment of the balance: formal notifications must be made by registered post with proof of delivery ('formal notification on paper').

Communications in the electronic exchange system must be made by persons authorised according to the 'Terms and Conditions of Use of the electronic exchange system'. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a 'Legal Entity Appointed Representative (LEAR)'. The role and tasks of the LEAR are stipulated in his/her appointment letter (see Terms and Conditions of Use of the electronic exchange system).

If the electronic exchange system is temporarily unavailable, instructions will be given on the *Agency* and Commission websites.

52.2 Date of communication

Communications are considered to have been made when they are sent by the sending party (i.e. on the date and time they are sent through the electronic exchange system).

Formal notifications through the **electronic** exchange system are considered to have been made when they are received by the receiving party (i.e. on the date and time of acceptance by the receiving party, as indicated by the time stamp). A formal notification that has not been accepted within 10 days after sending is considered to have been accepted.

Formal notifications **on paper** sent by **registered post** with proof of delivery (only after the payment of the balance) are considered to have been made on either:

- the delivery date registered by the postal service or
- the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

52.3 Addresses for communication

The **electronic** exchange system must be accessed via the following URL:

<https://ec.europa.eu/research/participants/portal/desktop/en/projects/>

The *Agency* will formally notify the coordinator and beneficiaries in advance any changes to this URL.

Formal notifications on paper (only after the payment of the balance) addressed **to the Agency** must be sent to the following address:

*Executive Agency for Small and Medium-sized Enterprises (EASME)
H2020 Environment & Resources
B-1049 Brussels Belgium*

Formal notifications on paper (only after the payment of the balance) addressed **to the beneficiaries** must be sent to their legal address as specified in the 'Beneficiary Register'.

ARTICLE 53 — INTERPRETATION OF THE AGREEMENT

53.1 Precedence of the Terms and Conditions over the Annexes

The provisions in the Terms and Conditions of the Agreement take precedence over its Annexes.

Annex 2 takes precedence over Annex 1.

53.2 Privileges and immunities

Not applicable

ARTICLE 54 — CALCULATION OF PERIODS, DATES AND DEADLINES

In accordance with Regulation No 1182/71²⁸, periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

ARTICLE 55 — AMENDMENTS TO THE AGREEMENT

55.1 Conditions

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

55.2 Procedure

The party requesting an amendment must submit a request for amendment signed in the electronic exchange system (see Article 52).

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3).

If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why;
- the appropriate supporting documents;
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

²⁸ Regulation (EEC, Euratom) No 1182/71 of the Council of 3 June 1971 determining the rules applicable to periods, dates and time-limits (OJ L 124, 8.6.1971, p. 1).



The *Agency* may request additional information.

If the party receiving the request agrees, it must sign the amendment in the electronic exchange system within 45 days of receiving notification (or any additional information the *Agency* has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date agreed by the parties or, in the absence of such an agreement, on the date on which the amendment enters into force.

ARTICLE 56 — ACCESSION TO THE AGREEMENT

56.1 Accession of the beneficiaries mentioned in the Preamble

The other beneficiaries must accede to the Agreement by signing the Accession Form (see Annex 3) in the electronic exchange system (see Article 52) within 30 days after its entry into force (see Article 58).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 58).

If a beneficiary does not accede to the Agreement within the above deadline, the coordinator must — within 30 days — request an amendment to make any changes necessary to ensure proper implementation of the action. This does not affect the *Agency's* right to terminate the Agreement (see Article 50).

56.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 55. It must include an Accession Form (see Annex 3) signed by the new beneficiary in the electronic exchange system (see Article 52).

New beneficiaries must assume the rights and obligations under the Agreement with effect from the date of their accession specified in the Accession Form (see Annex 3).

ARTICLE 57 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

57.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

57.2 Dispute settlement

If a dispute concerning the interpretation, application or validity of the Agreement cannot be settled amicably, the General Court — or, on appeal, the Court of Justice of the European Union — has sole



jurisdiction. Such actions must be brought under Article 272 of the Treaty on the Functioning of the EU (TFEU).

If a dispute concerns administrative or financial penalties, offsetting or an enforceable decision under Article 299 TFEU (see Articles 44, 45 and 46), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice of the European Union — under Article 263 TFEU. *Actions against enforceable decisions must be brought against the Commission (not against the Agency).*

ARTICLE 58 — ENTRY INTO FORCE OF THE AGREEMENT

The Agreement will enter into force on the day of signature by the *Agency* or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

For the *Agency*



EUROPEAN COMMISSION
Executive Agency for Small and Medium-sized Enterprises
(EASME)

H2020 Environment & Resources



ANNEX 1 (part A)

Research and Innovation action

NUMBER — 688920 — REPAiR

Table of Contents

1.1. The project summary.....	3
1.2. The list of beneficiaries.....	4
1.3. Workplan Tables - Detailed implementation.....	5
1.3.1. WT1 List of work packages.....	5
1.3.2. WT2 List of deliverables.....	6
1.3.3. WT3 Work package descriptions.....	11
Work package 1.....	11
Work package 2.....	13
Work package 3.....	17
Work package 4.....	21
Work package 5.....	25
Work package 6.....	29
Work package 7.....	33
Work package 8.....	36
Work package 9.....	41
1.3.4. WT4 List of milestones.....	43
1.3.5. WT5 Critical Implementation risks and mitigation actions.....	47
1.3.6 WT6 Summary of project effort in person-months.....	48
1.3.7. WT7 Tentative schedule of project reviews.....	49

1.1. The project summary

Project Number ¹	688920	Project Acronym ²	REPAiR
One form per project			
General information			
Project title ³	REPAiR - REsource Management in Peri-urban AREas: Going Beyond Urban Metabolism		
Starting date ⁴	01/09/2016		
Duration in months ⁵	48		
Call (part) identifier ⁶	H2020-WASTE-2015-two-stage		
Topic	WASTE-6b-2015 Eco-innovative strategies		
Fixed EC Keywords	Ecodesign, Life Cycle Analysis, Geo-information and spatial data analysis, Resources efficiency		
Free keywords	Circular Economy, Peri-urban Areas, Decision Support Systems		
Abstract ⁷			
A shift towards a more circular economy is crucial to achieve more sustainable and inclusive growth. Our objective is to provide local and regional authorities with an innovative transdisciplinary open source geodesign decision support environment (GDSE) developed and implemented in living labs in six metropolitan areas. The GDSE allows creating integrated, place-based eco-innovative spatial development strategies aiming at a quantitative reduction of waste flows in the strategic interface of peri-urban areas. These strategies will promote the use of waste as a resource, thus support the on-going initiatives of the EC towards establishing a strong circular economy. The identification of such eco-innovative strategies will be based on the integration of life cycle thinking and geodesign to operationalise urban metabolism. Our approach differs from previous UM as we introduce a reversed material flow accounting to collect data accurate and detailed enough for the design of a variety of solutions to place-based challenges. The developed impact and decision models allow quantification and validation of alternative solution paths and therefore promote sustainable urban development built on near-field synergies between the built and natural environments. This will be achieved by quantifying and tracking essential resource flows, mapping and quantification of negative and positive effects of present and future resource flows, and the determination of a set of indicators to inform decision makers concerning the optimization of (re-)use of resources. The GDSE will be open source. With a budget of €5 million, REPAiR funds a consortium rich in experience in waste and resource management, spatial decision support, territorial governance, spatial planning and urban design, and has deep knowledge of the 6 case study areas. REPAiR is supported by a user board, of key stakeholders for the development of CE as well as local authorities, who are heavily involved in the GDSE testing.			

1.2. List of Beneficiaries

Project Number ¹	688920	Project Acronym ²	REPAiR
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List of Beneficiaries

No	Name	Short name	Country	Project entry month ⁸	Project exit month
1	TECHNISCHE UNIVERSITEIT DELFT	TUD	Netherlands	1	48
2	UNIVERSITEIT GENT	UGENT	Belgium	1	48
3	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II.	UNINA	Italy	1	48
4	HAFENCITY UNIVERSITAT HAMBURG	HCU	Germany	1	48
5	MAGYAR TUDOMANYOS AKADEMIA KOZGAZDASAG-ES REGIONALIS TUDOMANYI KUTATOKOZPONT	RKI	Hungary	1	48
6	INSTYTUT GEOGRAFII I PRZESTRZENNEGO ZAGOSPODAROWANIA IM STANISLAWA LESZCZYCKIEGO POLSKIEJ AKADEMII NAUK	IGiPZ	Poland	1	48
7	JRC -JOINT RESEARCH CENTRE-EUROPEAN COMMISSION	JRC	Belgium	1	48
8	ARCINIEGAS LOPEZ GUSTAVO	Geo-Col	Netherlands	1	48
9	DELTA PROJECTONTWIKKELING BV	Delta	Netherlands	1	48
10	BIOKOM Pecs Varosuzemeltetesi es Kornyeztgazdalkodasi Nonprofit Korlatolt Felelossegu Tarsasag	BIOKOM	Hungary	1	48
11	Gertz Gutsche Rümenapp - Stadtentwicklung und Mobilität GbR	GGR	Germany	1	48
12	OPENBARE VLAAMSE AFVALSTOFFENMAATSCHAPPIJ	OVAM	Belgium	1	48
13	GEMEENTE HAARLEMMEER	GHM	Netherlands	1	48
14	REGIONE CAMPANIA	CAMPANIA	Italy	1	48
15	OLP SPOLKA Z OGRANICZONA ODPOWIEDZILNOSCIA	PHH	Poland	1	48
16	BAUER UMWELT GMBH	BAUER	Germany	1	48
17	INTERGEMEENTELIJKE VERENIGING VOORAFVALBEHEER IN GENT EN OMSTREKEN	IVAGO	Belgium	1	48
18	STADTREINIGUNG HAMBURG AOR	SRH	Germany	1	48

1.3. Workplan Tables - Detailed implementation

1.3.1. WT1 List of work packages

WP Number ⁹	WP Title	Lead beneficiary ¹⁰	Person-months ¹¹	Start month ¹²	End month ¹³
WP1	Project Management	1 - TUD	24.50	1	48
WP2	Developing and Implementing a Geodesign Decision Support Environment	11 - GGR	83.00	1	47
WP3	Developing and implementing territorial metabolism based representation and process models	1 - TUD	104.50	4	42
WP4	Developing and Implementing Sustainability Impact and Evaluation Models	2 - UGENT	100.00	4	42
WP5	Developing eco-innovative solutions and change strategies	3 - UNINA	117.00	1	48
WP6	Developing and implementing decision models	4 - HCU	61.30	1	38
WP7	Knowledge transfer between cases	5 - RKI	58.10	1	47
WP8	Dissemination and Exploitation	6 - IGiPZ	61.60	1	48
WP9	Ethics requirements	1 - TUD	N/A	1	48
Total			610.00		

1.3.2. WT2 list of deliverables

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D1.1	Project Handbook	WP1	1 - TUD	Report	Confidential, only for members of the consortium (including the Commission Services)	1
D2.1	Vision of the GDSE applications	WP2	11 - GGR	Report	Public	4
D2.2	Data delivery plan	WP2	11 - GGR	Report	Confidential, only for members of the consortium (including the Commission Services)	10
D2.3	Programmed GDSE Modules	WP2	11 - GGR	Demonstration	Public	12
D2.4	Geodesign Workshops Handbook	WP2	1 - TUD	Report	Public	26
D2.5	Adapted GDSE modules	WP2	11 - GGR	Demonstration	Public	37
D2.6	GDSE handbook and technical documentation	WP2	11 - GGR	Report	Public	46
D3.1	Handbook Integrated Analyses	WP3	1 - TUD	Report	Public	12
D3.2	Report sociocultural/ socio-economic and company-related investigations for pilot studies.	WP3	5 - RKI	Report	Public	14
D3.3	Process model for pilot cases	WP3	1 - TUD	Other	Public	16
D3.4	Process model Ghent	WP3	2 - UGENT	Other	Public	20
D3.5	Process model Łódź	WP3	6 - IGiPZ	Other	Public	22
D3.6	Process model Hamburg	WP3	4 - HCU	Other	Public	24
D3.7	Process model Pécs	WP3	5 - RKI	Other	Public	26
D3.8	Report findings on socio-cultural/ socio-economic and company-related investigations	WP3	5 - RKI	Report	Public	32
D3.9	Comparison report for policy makers	WP3	5 - RKI	Report	Public	40

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D4.1	ata availability Report Pilot cases	WP4	2 - UGENT	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D4.2	Preliminary sustainability framework	WP4	2 - UGENT	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D4.3	Complementarity analyses of local impacts	WP4	2 - UGENT	Report	Public	16
D4.4	Definitive Framework for sustainability assessment	WP4	2 - UGENT	Other	Public	24
D4.5	Aggregation of sustainability information	WP4	7 - JRC	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D4.6	Sustainability assessment pilot cases	WP4	7 - JRC	Other	Public	26
D4.7	Sustainability assessment follow up cases	WP4	7 - JRC	Other	Public	42
D5.1	PULL Handbook	WP5	3 - UNINA	Report	Public	5
D5.2	Eco-innnovative solution Amsterdam	WP5	1 - TUD	Other	Public	21
D5.3	Eco-innovative solutions Naples	WP5	3 - UNINA	Other	Public	21
D5.4	Handbook: How to run a PULL	WP5	3 - UNINA	Report	Public	21
D5.5	Eco-innovative solutions Ghent	WP5	2 - UGENT	Other	Public	32
D5.6	Eco-innovative solutions Łódź	WP5	6 - IGiPZ	Other	Public	35
D5.7	Eco-innovative solutions Hamburg	WP5	4 - HCU	Other	Public	38
D5.8	Eco-innovative solutions Pécs	WP5	5 - RKI	Other	Public	41
D5.9	Final Updated Handbook: How	WP5	3 - UNINA	Report	Public	48

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
	to run a PULLs for dissemination purposes					
D6.1	Governance and decision processes in pilot cases	WP6	4 - HCU	Report	Public	6
D6.2	Governance and decision processes in follow up cases	WP6	4 - HCU	Report	Public	12
D6.3	Decision models pilot studies	WP6	4 - HCU	Report	Public	14
D6.4	Decision models follow up studies	WP6	4 - HCU	Report	Public	18
D6.5	Cross analyses decision models	WP6	4 - HCU	Report	Public	23
D6.6	Decisonmodels for GDSE	WP6	1 - TUD	Other	Confidential, only for members of the consortium (including the Commission Services)	30
D7.1	Theoretical model of knowledge transfer	WP7	1 - TUD	Report	Public	24
D7.2	Handbook knowledge transfer	WP7	5 - RKI	Other	Public	39
D8.1	Corporate identity	WP8	3 - UNINA	Other	Public	2
D8.2	Communication Handbook	WP8	6 - IGiPZ	Report	Public	3
D8.3	Basic Dissemination plan	WP8	6 - IGiPZ	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D8.4	Data management plan	WP8	1 - TUD	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D8.5	Project website	WP8	6 - IGiPZ	Other	Public	6
D8.6	Dissemination Plan and Dissemination Kit	WP8	6 - IGiPZ	Report	Public	12
D8.7	Scientific publications	WP8	6 - IGiPZ	Other	Public	48

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D8.8	Workshops, press conferences, policy oriented seminars	WP8	6 - IGiPZ	Other	Public	48
D8.9	Exploitation plan	WP8	6 - IGiPZ	Report	Public	36
D8.10	Dissemination Kit	WP8	6 - IGiPZ	Report	Public	48
D8.11	Final data management plan	WP8	1 - TUD	ORDP: Open Research Data Pilot	Public	48
D8.12	Dissemination and exploitation report	WP8	6 - IGiPZ	Report	Public	48
D9.1	POPD - Requirement No. 7	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2
D9.2	H - Requirement No. 6	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2
D9.3	H - Requirement No. 5	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2
D9.4	H - Requirement No. 4	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2
D9.5	POPD - Requirement No. 3	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2
D9.6	H - Requirement No. 2	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D9.7	POPD - Requirement No. 1	WP9	1 - TUD	Ethics	Confidential, only for members of the consortium (including the Commission Services)	2

1.3.3. WT3 Work package descriptions

Work package number ⁹	WP1	Lead beneficiary ¹⁰	1 - TUD
Work package title	Project Management		
Start month	1	End month	48

Objectives

To conduct an efficient management process which ensures that the work is carried out in accordance with the Description of Action (DoA);
 To ensure the required quality and time schedules are achieved throughout the entire project duration;
 To facilitate the fulfilment of the partners' obligations to the EU from the legal, contractual, financial and administrative perspectives;
 And to effectively communicate between the consortium and the EU.

Description of work and role of partners

WP1 - Project Management [Months: 1-48]

TUD, UGENT, UNINA, HCU, RKI, IGiPZ

Task 1.1 Technical coordination (months # 1 to #48)

Task leader: TUD (A) (5PM);

Partners: ALL.

The technical coordinator, in cooperation with the project manager and work package leaders, will perform technical monitoring. The technical coordinator will ensure:

- consistent coordination of the different research teams across the project activities;
- monitoring of realisation of the implementation plan;
- assessment and evaluation of the overall performance of the project;
- continuous quality assurance and timely submission of deliverables and reports;
- liaison with relevant key stakeholders;
- accurate risk analysis and contingency planning.

Technical management meetings will be held at regular intervals to assess the degree of work completion, including technical results and deliverable preparation. This continuous quality oversight is performed by the technical coordinator and will be reported in the periodic progress reports.

Task 1.2 Project Management (months # 1 to #48)

Task leader: TUD (VC) (16PM);

Partners: ALL.

A dedicated project manager is responsible for the administrative, legal, financial, communications and organisational aspects of the project.

The following tasks are performed:

- planning and organising project/Steering Committee (SC) meetings/teleconferences and safeguarding the follow-up actions and decision taken by the SC;
- compiling of SC minutes;
- drawing up a handbook on administrative issues;
- writing management reports including financial accounting;
- distributing of EU funds according to Grant Agreement;
- monitoring the budget and expenditures of the consortium and compiling financial reports;
- coordinating the submission of the deliverables, periodic and final reports (according the GA);
- maintaining all project related contracts such as Grant Agreement (GA), Description of Work (DoW) and Consortium Agreement (CA);
- supervising the contracts and applying for amendments in cooperation with technical coordinator, if necessary;
- acting as liaison with the European Commission (EU).

Task 1.3 Management of the PULLs (months # 5 to #42)

Task leader: UNINA (1PM), Partners: TUD, UG, HCU, RKI and IGiPZ (all 0.5 PM)

The management of the six PULLs requires administrative, legal, financial, communication and organisational tasks that are more easily and efficiently organised by the local PULLs responsible institution instead of the central project management. These tasks will be conducted by the PULLs coordinator.

Participation per Partner

Partner number and short name	WP1 effort
1 - TUD	21.50
2 - UGENT	0.50
3 - UNINA	1.00
4 - HCU	0.50
5 - RKI	0.50
6 - IGiPZ	0.50
Total	24.50

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D1.1	Project Handbook	1 - TUD	Report	Confidential, only for members of the consortium (including the Commission Services)	1

Description of deliverables

D 1.1 Project Handbook: Management Guidelines (month #1)

D1.1 : Project Handbook [1]

Handbook on administrative Issues

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
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Work package number ⁹	WP2	Lead beneficiary ¹⁰	11 - GGR
Work package title	Developing and Implementing a Geodesign Decision Support Environment		
Start month	1	End month	47

Objectives

The aim of this WP is to develop, test and implement a geodesign decision-support environment (GDSE) that supports the development of spatially integrated (waste) resource management strategies for peri-urban areas. REPAiR's Overall Approach 1.3.4. WP 2 integrates the models developed in WP 3 to WP 6 into the GDSE.

To develop the GDSE, the following sub-objectives have to be met:

- Develop, test and implement a software solution predominantly consisting of open source components that integrate the different models developed in WP 3 - 6.
- Develop, test and implement a collaborative framework that integrates the six steps and three iterations of a geodesign framework (see 1.1.3 for details).
- Organising a series of workshops (integrated into the PULLs) to integrate the knowledge and methodologies developed in WP 3-5 as well as the priorities of the stakeholder at the place in question (WP 6).

Description of work and role of partners

WP2 - Developing and Implementing a Geodesign Decision Support Environment [Months: 1-47]

GGR, TUD, UGENT, UNINA, HCU, RKI, IGIPZ, JRC, Geo-Col, Delta, BIOKOM, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

Task 2.1 Developing the five modules of the GDSE (month # 1 to #26)

Task leader is GGR (19 PM); Partners: TUD (8 PM); GEO-Col (5 PM) HCU (2 PM);

The GDSE consists of five modules, which, after the project, will be openly accessible and can be further used/developed by other stakeholders, such as local and regional authorities, consultancy firms and waste treatment companies. The modules are: data management (DBM), dialogue management (DM), model management (MM), the knowledge management (KM), and stakeholder management (SM). See 1.3.4 for more details.

Partner Responsibilities for all tasks:

- GGR is key responsible partner for overall coordination, DBM and MM.
- TUD is key responsible partner for KM and SM.
- Geo-Col is key responsible partner for DM.
- User board member for testing and feasibility check
- Students for testing

Task 2.2 Testing and Implementing the GDSE in the PULLs (months # 10 to #41)

Task leader is TUD (8 PM); Partners: GGR (8 PM); GEO-Col (4PM); HCU (2 PM); RKI (4 PM); UNINA (3 PM) IGIPZ (3 PM); UG ENT (2 PM); all others 1PM

Developing the GDSE is a stepwise process that will be tested in different settings. Workshops will be conducted with students, members of the project team and user board, as well as with selected stakeholders. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy. Task 2.2 contains the organisation, process definitions, production of storyboards, as well as the documentation of the workshops. Furthermore, task 2.2 includes the evaluation of these workshops in order to improve the GDSD step by step.

Task 2.3 Documentation of GDSE (months # 41 to 46)

Task leader is GGR (2PM); Partners: TUD (1 PM); Geo-Col (1 PM); HCU (1 PM)

To ensure the further uptake of the GDSE, all modules will be documented. This documentation will be made available open access via the 3TU OpenEarth Data Lab.

Participation per Partner

Partner number and short name	WP2 effort
1 - TUD	17.00

Partner number and short name	WP2 effort
2 - UGENT	2.00
3 - UNINA	3.00
4 - HCU	5.00
5 - RKI	4.00
6 - IGiPZ	3.00
7 - JRC	1.00
8 - Geo-Col	10.00
9 - Delta	1.00
10 - BIOKOM	1.00
11 - GGR	29.00
12 - OVAM	1.00
13 - GHM	1.00
14 - CAMPANIA	1.00
15 - PHH	1.00
16 - BAUER	1.00
17 - IVAGO	1.00
18 - SRH	1.00
Total	83.00

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D2.1	Vision of the GDSE applications	11 - GGR	Report	Public	4
D2.2	Data delivery plan	11 - GGR	Report	Confidential, only for members of the consortium (including the Commission Services)	10
D2.3	Programmed GDSE Modules	11 - GGR	Demonstrator	Public	12
D2.4	Geodesign Workshops Handbook	1 - TUD	Report	Public	26
D2.5	Adapted GDSE modules	11 - GGR	Demonstrator	Public	37
D2.6	GDSE andbook and technical documentation	11 - GGR	Report	Public	46

Description of deliverables

D 2.1 - Vision of the GDSE applications (in order to set clear expectations from the beginning). (month #4)
D 2.2 - Data requirement description and data delivery plan for the case study areas (month #7).
D 2.3 - Programmed test version, ready-to-use main structure of the GDSE. (month #12)
D 2.4a and b: Handbook for geodesign workshops, including process description, storyboards, documentation and evaluation manuals updated for pilot studies. (a month #16) and follow up cases (b month # 26)
D 2.5a to d 2.5d adapted modules (DBM, MM, KM, DM), reconfigured and ready-to-use for the four following geodesign projects. (month # 28, 31, 34, 37)
D 2.6: User handbook and technical documentation: How to use the GDSE. (month # 46)

D2.1 : Vision of the GDSE applications [4]

Vision of the GDSE applications (in order to set clear expectations from the beginning)

D2.2 : Data delivery plan [10]

Data requirement description and data delivery plan for the case study areas

D2.3 : Programmed GDSE Modules [12]

Programmed modules for the two pilot applications in Naples and Amsterdam ready to used.

D2.4 : Geodesign Workshops Handbook [26]

Handbook to guide the geodesign workshops. First version for the pilot cases ready in month 16, revised second version in month 26.

D2.5 : Adapted GDSE modules [37]

Adapted GDSE modules (DBM, MM, KM, DM), reconfigured and ready-to-use for the four follow up geodesign projects. (month # 28, #31, #34, #37)

D2.6 : GDSE andbook and technical documentation [46]

User handbook and technical documentation: How to use the GDSE for dissemination purposes.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Catalogue of minimum requirements for the GDSE	11 - GGR	4	A Catalogue of minimum requirements for the GDSE agreed on by the project board
MS2	Detailed technical concept for each GIS-based components	11 - GGR	10	Detailed technical concept for each GIS-based component, taking into account the specific requirements as well as existing data and models of each of the six geodesign projects. Delivered in form of a report.
MS3	Programmed modules for the two pilot applications in Naples and Amsterdam	11 - GGR	14	A ready-to-use beta version of Programmed modules for the two pilot applications in Naples and Amsterdam.
MS4	Geodesign workshop Amsterdam	1 - TUD	25	Geodesign workshops with stakeholders in the case of Amsterdam. As

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
				final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.
MS5	Geodesign workshop Naples	3 - UNINA	26	Geodesign workshops with stakeholders in the case of Naples. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.
MS6	Geodesign workshop Ghent	2 - UGENT	32	Geodesign workshops with stakeholders in the case of Ghent. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.
MS7	Geodesign workshop Łódź	6 - IGiPZ	35	Geodesign workshops with stakeholders in the case of Łódź. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.
MS8	Geodesign workshop Hamburg.	4 - HCU	38	Geodesign workshop with stakeholders in Hamburg. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.
MS9	Geodesign workshop Pécs	5 - RKI	41	Geodesign workshops with stakeholders in Pécs. As final event of every case study, one geodesign session will be held with the aim of developing one agreed resource management strategy.

Work package number ⁹	WP3	Lead beneficiary ¹⁰	1 - TUD
Work package title	Developing and implementing territorial metabolism based representation and process models		
Start month	4	End month	42

Objectives

WP3's aim is to analyse and describe the case study areas with their subsystems and processes that define the area's metabolic patterns, from the vantage point of waste production and waste management. The domains place, flow & stocks, and behaviour & governance are taken into account with regard to spatial (where?), contextual (what, why, who and how?) and temporal (when?) dimensions. The representation and process models developed in WP3 directly communicate with evaluation, impact and change models at the heart of WP4 and WP5 and are used as input to the GDSE WP 2.

Description of work and role of partners

WP3 - Developing and implementing territorial metabolism based representation and process models [Months: 4-42]

TUD, UGENT, UNINA, HCU, RKI, IGiPZ, JRC, Geo-Col, Delta, BIOKOM, GGR, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

Task 3.1: Spatial analysis (Months # 2-26)

Task leader: UNINA (5PM); Partners leading one case study: TUD (4PM), UGHENT (3 PM), HCU (3 PM), RKI (5PM), IGiPZ (5 PM); Other input: JRC (1 PM), GEO-Col (1 PM), GGR (0.5PM), GMH (0.5 PM), CRA (0.5 PM), PHH (0.5 PM), Bauer (1 PM), IVAGO (0.5 PM);

T3.1 defines goals, methodology and means of representation regarding a spatial description of the case study areas, to better understand the relation between the morphology and physiological activities in space. T. 3.1 describes the system's physical and administrative borders, infrastructures, land-use, typologies, planning specifications, with (GIS-) maps, texts, photography and other means of representation. Primary questions are:

- What are the (system) boundaries of the area?
- What is the area's general, physical and human geography?
- What is the waste-specific geography of the area?
- What are the relevant prior plans, projects and policies?
- What data sources are relevant and accessible?

Task 3.2: Material flow analyses (Months # 2-26)

Task leader: TUD (8 PM); Flow modelling: JRC (8 PM), Partners leading one case study: UGHENT (6 PM), UNINA (3 PM), HCU (3 PM), RKI (3PM), IGiPZ (3 PM); Other input: GEO-Col (1 PM), GMH (0.5 PM), Biokom (0.5 PM), OVAM (0.5 PM), IVAGO (0.5 PM), SRH (0.5 PM), DELTA (0.5 PM)

Task 3.2 studies the material flows & stocks of the area's subsystems, based on consumption patterns and waste production. T. 3.2 aims to identify the specific activities relating material flows & stocks from waste production in subsystems: referred to as reversed material flow accounting (r-MFA). Questions are for example:

- What are the area's major physical and human geographical processes in relation to waste management?
- What are the qualitative and quantitative waste flow specifications in content, space and time?
- How and where are the associated processes interlinked?
- What is the data quality available with regard to these processes?

Task 3.3 – Surveys of households and companies (Months # 2–40)

Task leader: RKI (14 PM); Partners leading one case study: TUD (3 PM), UGHENT (3 PM), UNINA (3 PM), HCU (3 PM), IGiPZ (5 PM); Other input: JRC (1 PM), DELTA (0.5 PM), Biokom (0.5PM), GGR (0.5 PM), OVAM (0.5 PM), GMH (0.5 PM), CRA (0.5 PM), PHH (0.5 PM), IVAGO (0.5 PM), SRH (0.5 PM);

T3.3 focuses on different socio-cultural and socio-economic factors that influence metabolic patterns in the case study areas. The surveys have two target groups: households and companies. For households, the research aims to analyse individuals' social values, norms, beliefs, and attitudes, as well as features of their socio-economic status. T3.3 aims to survey companies' 'waste-intelligence' and 'waste-sensitivity' (companies' waste management regulations and practices, awareness of waste issues), and compare these later results to the outcomes of the survey on socio-cultural/ socio-economic factors. Questions are:

- How to conceptualise a theoretical frame for operationalization?

- What are the relevant socio-cultural/socio-economic indicators and features of companies' 'waste-intelligence' and 'waste-sensitivity'?
- What are the area's socio-cultural/socio-economic characteristics, and what are the findings on companies' awareness towards waste issues?
- What can the research reveal about the basic assumption?

Participation per Partner

Partner number and short name	WP3 effort
1 - TUD	15.00
2 - UGENT	12.00
3 - UNINA	11.00
4 - HCU	9.00
5 - RKI	22.00
6 - IGiPZ	13.00
7 - JRC	10.00
8 - Geo-Col	2.00
9 - Delta	1.00
10 - BIOKOM	1.00
11 - GGR	1.00
12 - OVAM	1.00
13 - GHM	1.00
14 - CAMPANIA	1.00
15 - PHH	1.00
16 - BAUER	1.00
17 - IVAGO	1.50
18 - SRH	1.00
Total	104.50

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D3.1	Handbook Integrated Analyses	1 - TUD	Report	Public	12
D3.2	Report sociocultural/socio-economic and company-related investigations for pilot studies.	5 - RKI	Report	Public	14

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D3.3	Process model for pilot cases	1 - TUD	Other	Public	16
D3.4	Process model Ghent	2 - UGENT	Other	Public	20
D3.5	Process model Łódź	6 - IGiPZ	Other	Public	22
D3.6	Process model Hamburg	4 - HCU	Other	Public	24
D3.7	Process model Pécs	5 - RKI	Other	Public	26
D3.8	Report findings on socio-cultural/socio-economic and company-related investigations	5 - RKI	Report	Public	32
D3.9	Comparison report for policy makers	5 - RKI	Report	Public	40

Description of deliverables

D 3.1 Internal guidelines (Handbook): Introduction to methodology for integrated spatial, material flow and social analyses. (month #12)

D 3.2 Report on socio-cultural/socio-economic and company-related investigations for the two pilot studies. (Month #14)

D 3.3 Definitive process model for the two pilot cases, including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses. (month #16)

D 3.4 Definitive process model for the four follow-up studies, including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses. (months #20 – #26)

D 3.5 Report on the main findings on socio-cultural/socio-economic and company-related investigations in all case studies. (month #32)

D 3.6 Comparison report of resource models with lessons for policy makers. (month # 40)

D3.1 : Handbook Integrated Analyses [12]
Handbook: Introduction to methodology for integrated spatial, material flow and social analyses. Definition of methods applied for the development of the six models.

D3.2 : Report sociocultural/socio-economic and company-related investigations for pilot studies. [14]
Report of results on sociocultural/socio-economic and company-related investigations for the two pilot studies.

D3.3 : Process model for pilot cases [16]
Definitive process model for the two pilot cases, including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses.

D3.4 : Process model Ghent [20]
Definitive process model for the case of Ghent, including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses.

D3.5 : Process model Łódź [22]
Definitive process model for the case of Łódź , including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses.

D3.6 : Process model Hamburg [24]

Definitive process model for the case of Hamburg, including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses.

D3.7 : Process model Pécs [26]

Definitive process model for the case of Pécs , including digital maps, database and reports of – the interplay between – spatial, material flow and social analyses.

D3.8 : Report findings on socio-cultural/socio-economic and company-related investigations [32]

Report on the main findings on socio-cultural/socio-economic and company-related investigations in all case studies.

D3.9 : Comparison report for policy makers [40]

Comparison report of resource strategies with lessons for policy makers.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS10	Definition of system boundaries and goals and data assessment	1 - TUD	10	Definition of system boundaries and goals and data assessment of core material flows and subcategories, spatial qualities, social aspects from the two pilot studies agreed on by the project board.
MS11	Questionnaire for Household and Companies Surveys	5 - RKI	10	Elaborated questionnaire for T-3.3 surveys ready to use and agreed on by the project board.
MS12	Preliminary representation and process models	1 - TUD	13	Preliminary representation and process models ready to be integrated into GDSE. First maps and data bases delivered in order to test within the GDSE
MS13	Validation of Pilot Study Models	1 - TUD	19	Validation of the methodology and calibration of models from the 2 pilot studies agreed on by the project board in order to prepare models for the follow up studies.

Work package number ⁹	WP4	Lead beneficiary ¹⁰	2 - UGENT
Work package title	Developing and Implementing Sustainability Impact and Evaluation Models		
Start month	4	End month	42

Objectives

The main objective of WP4 is to analyse the sustainability of the present urban metabolism (WP3) in the case study areas and the influences of eco-innovative solutions (WP5) in a spatially differentiated and trans-disciplinary way. This WP has several sub-objectives:

- Develop a framework of quantitative sustainability indicators starting from the existing framework developed by PROSUITE.
- Analyse the need for assessment of local impacts in the peri-urban areas
- Analysis of available data sources and cross check with the framework development and decision needs in the case study areas.
- Integration of indicators at different levels to deliver comprehensive sustainability support for the GDSE
- Applying the framework to the case studies

Description of work and role of partners

WP4 - Developing and Implementing Sustainability Impact and Evaluation Models [Months: 4-42]

UGENT, TUD, UNINA, HCU, RKI, IGiPZ, JRC, Geo-Col, Delta, BLOKOM, GGR, OVAM, PHH, BAUER, IVAGO, SRH

Task 4.1 Development of sustainability assessment framework (Months # 4-12)

Task leader: UGENT (10 PM); Partners: TUD (3 PM), UNINA (1 PM), RKI (4 PM), IGiPZ (4 PM), JRC (8 PM), DELTA (0.5 PM), Biokom (0.5PM), GGR (1 PM), OVAM (1 PM), PHH (0.5 PM), Bauer (0.5 MP), IVAGO (0.5 PM), SRH (0.5 PM);

The starting points of the framework are the endpoints developed in PROSUITE. First, this framework will be updated with state-of-the-art methodologies, such as the Product and Organisation Environmental Footprint (PEF/OEF), indicators for waste management and recycling benefits. The main challenge lies in tailoring the framework to evaluate peri-urban areas in a multidisciplinary (economic, ecologic, social) and spatially differentiated way. The PROSUITE framework was developed to assess the sustainability impact of new technologies worldwide rather than assessing a specific region. Therefore, following questions need to be resolved:

- Which impacts occur at a peri-urban level that are typically missed when performing traditional sustainability assessments?
- Which indicators are available and which can be of added value for integration into the sustainability framework.
- How can these local impacts be linked to existing/new impact categories?
- Which data are available at which level?

The functionality of indicators is important, but data availability can be a main bottleneck. Therefore a strong link with WP3 is required to assess the availability of data on regional and local scales. Where necessary and possible, additional data will be collected or generated starting from available sources such as: urban bookkeeping, reports, local studies, local IO tables, surveys, network analysis, sector statistics, and field work.

The results of task 4.1 are a new list of indicators and aggregation options.

Task 4.2 Aggregation of sustainability indicators in the assessment framework (Months #8-24 pilot and #16 - 32 follow up)

Task leader: JRC (10 PM); Partners: TUD (3 PM), UGENT (8 PM), RKI (2 PM), IGiPZ (2 PM), DELTA (0.5 PM), GGR (0.5 PM) GEO-COL (0.5 PM);

T.4.2 focuses on the integration of all this information into a relevant and limited set of indicators both at peri-urban area and economy-wide levels using multi-criteria assessment techniques. A balance will be made between the complexity of information and the need for clear input to decision-making. Many sustainability assessment practices such as LCA focus on gathering economy-wide sustainability information. Given the nature of the REPAiR project, the interest is to gain insights into effects at a local urban/peri-urban area level. Therefore, the aim is to merge sustainability information from the local and economy-wide levels.

Task 4.3 Generating evaluation models (Months #10-15 pilot and #16-21 follow up)

Task leader: UGHENT (4 PM); Partners: TUD (3 PM), UNINA (1 PM), RKI (2 PM), IGiPZ (2 PM), JRC (3 PM), GEO-Col (0.5 PM), DELTA (0.5 PM), GGR (0.5 PM), OVAM (1 PM), PHH (0.5 PM), SRH (0.5 PM);

In T.4.3 the previously developed framework will be applied to the existing situation first in the two pilot studies and thereafter in the follow-up cases. Results will be developed based on an analysis (GIS layers, tables and diagrams) of the existing situation in relation to the key flows (WP3) of the urban metabolism and the key challenges identified by the key stakeholders (WP6). The results will be, in an abstracted form, integrated into the GDSE (WP2).

Task 4.4 Generating impact models (Month #12-24 (pilot) and #26-42 (follow up))

Task leader: UGHENT (4 PM); Partners: TUD (3 PM), UNINA (1 PM), RKI (2 PM), IGiPZ (2 PM), JRC (3 PM), GEO-Col (0.5 PM), Biokom (0.5PM), GGR (0.5 PM), OVAM (1 PM), Bauer (0.5 MP);

In this task the framework will be applied to specific proposed changes to key challenges as well as to change strategies built on a combination of individual changes, both produced in WP 5. The resulting assessment will be, in an abstracted form, the input for decision finding in the stakeholder workshops organised in WP2.

Participation per Partner

Partner number and short name	WP4 effort
1 - TUD	12.00
2 - UGENT	26.00
3 - UNINA	3.00
4 - HCU	2.00
5 - RKI	10.00
6 - IGiPZ	10.00
7 - JRC	24.00
8 - Geo-Col	2.00
9 - Delta	1.00
10 - BIOKOM	1.00
11 - GGR	2.50
12 - OVAM	3.00
15 - PHH	1.00
16 - BAUER	1.00
17 - IVAGO	0.50
18 - SRH	1.00
Total	100.00

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D4.1	ata availability Report Pilot cases	2 - UGENT	Report	Confidential, only for members of the consortium (including the Commission Services)	6

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D4.2	Preliminary sustainability framework	2 - UGENT	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D4.3	Complementarity analyses of local impacts	2 - UGENT	Report	Public	16
D4.4	Definitive Framework for sustainability assessment	2 - UGENT	Other	Public	24
D4.5	Aggregation of sustainability information	7 - JRC	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D4.6	Sustainability assessment pilot cases	7 - JRC	Other	Public	26
D4.7	Sustainability assessment follow up cases	7 - JRC	Other	Public	42

Description of deliverables

D 4.1: Analysis of data availability for region-level pilot cases (month #6))
 D 4.2: Preliminary sustainability framework ready for testing the GDSE (month #12)
 D4.3: Analysis of local impacts and complementarity with the existing sustainability assessment framework (month #16)
 D 4.4: Framework for sustainability assessment available (month #24)
 D 4.5: Aggregation strategy for the sustainability information (month #26)
 D 4.6: Sustainability assessment of eco-innovative solutions in the pilot case studies (month #26)
 D 4.7: Sustainability assessment of eco-innovative solutions in all case studies (month #42)
 D4.1 : ata availability Report Pilot cases [6]
 Analysis of data availability at regional level pilot cases
 D4.2 : Preliminary sustainability framework [12]
 Preliminary sustainability framework ready for testing the evaluation and impact model for GDSE
 D4.3 : Complementarity analyses of local impacts [16]
 Analysis of local impacts and complementarity with the existing sustainability assessment framework
 D4.4 : Definitive Framework for sustainability assessment [24]
 Framework for sustainability assessment available.
 D4.5 : Aggregation of sustainability information [24]
 Aggregation strategy for the sustainability information. In order integrate assessment through scales and across different indicators.

D4.6 : Sustainability assessment pilot cases [26]
Sustainability assessment of eco-innovative solutions in the pilot case studies.

D4.7 : Sustainability assessment follow up cases [42]
Sustainability assessment of eco-innovative solutions in all follow up case studies

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS14	Benchmark of available data versus existing indicator	2 - UGENT	8	Benchmark of available data versus existing indicator framework ready and agreed on by the project board.
MS15	Possibilities of sustainability assessment at regional level	7 - JRC	12	Possibilities analysed of sustainability assessment at regional level and agreed on by the project board.
MS16	Test of framework for assessment	2 - UGENT	12	Test of assessment framework in the pilot cases ready and applied during workshop with stakeholders.
MS17	Handbook Sustainability Assessment	2 - UGENT	26	Handbook for sustainability assessment in the repair project ready and available on the project webpage

Work package number ⁹	WP5	Lead beneficiary ¹⁰	3 - UNINA
Work package title	Developing eco-innovative solutions and change strategies		
Start month	1	End month	48

Objectives

The key objective of WP 5 is to generate a diversity of possible solutions for key challenges with a view to the development of a more circular economy in the case areas through the following sub-objectives:

- Developing and setting up ‘peri-urban living labs’ (PULLs) in two pilot case studies: Amsterdam and Naples.
- Performing PULLs in two pilot case studies in order to produce a variety of designs for eco-innovative solutions for a more circular economy.
- Adapting the setup of PULLs for the four additional cases and performing the PULLs to produce a variety of designs for eco-innovative solutions for a more circular economy.
- Preparing a catalogue of solutions to be included in the GDSE and to be used for further dissemination.

Description of work and role of partners

WP5 - Developing eco-innovative solutions and change strategies [Months: 1-48]

UNINA, TUD, UGENT, HCU, RKI, IGIPZ, JRC, Geo-Col, Delta, BIOKOM, GGR, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

WP 5 is organised in five tasks separating the organisation, the carrying out and the documentation of the PULLs.

Task 5.1 Developing and organising six peri-urban living labs (Months #1-6 (pilot) and #20-23 (follow up))

Task leader: UNINA (2 PM); Partners: TUD (2 PM), RKI (2 PM), others (0.5 PM);

The development and organisation of PULLs have subtasks related to the location and organisation as well as to integrating education into the PULLs.

Organisation

- Prepare concrete time and work plan, which includes the involvement and tasks of single participants as well as the concrete setup of the PULLs;
- Definition of key challenges for a circular economy;
- Defining the specific outcomes of the PULLs;

Location

- Defining the physical locations as well as hard and software needed for the PULLs;
- Establishing links to key stakeholders and arranging their involvement.

Education

- Establish those forms of education most feasible for local partners as well as time and date assigned to the PULLs.
- Ensure the integration of teaching activities into the regular teaching programs and their formal requirements.
- Definition of general and specific assignments as well as related learning objectives.
- Preparation of course descriptions, including learning goals, expected outcome, course materials as well as assessment criteria for all planned courses.

PULLs Lead responsible partners for all tasks: Naples: UNINA; Amsterdam: TUD; Ghent: UGHENT; Hamburg: HCU; Łódź: IGPIZ; Pécs: RKK;

Task 5.2 Carrying out of PULLs in two pilot studies (Months #7-24)

Task leader: UNINA (15 PM) and TUD (9 PM); Partners: UGHENT (0.5 PM), HCU (0.5 PM), RKI (2 PM), IGIPZ (2 PM), JRC (2 PM), GEO-Col (1 PM), DELTA (2 PM), GGR (0.5 PM), GMH (2.5 PM), CRA (4 PM), Bauer (1 MP); Biokom (1 PM)

Task 5.2 carries out the PULLs in the pilot studies and integrates activities from several WPs in order to develop eco-innovative solutions for specific challenges as well as strategies for CE. This is done during a series of design studios and interlinked design workshops with students and stakeholders. (see 1.3.3.4 for details)

Task 5.3 Preparation of methodological guidelines for the PULLs (Months # 17-20)

Task leader: UNINA (7 PM); Partners: TUD (2 PM), UGHENT (1 PM), HCU (0.5 PM), RKI (1 PM), IGIPZ (1 PM), GEO-Col (0.5 PM); CRA (0.5 PM); Biokom (1 PM)

Preparation of a PULLs handbook, explaining the approach and the theoretical framework developed in the pilot PULLs. This handbook serves as the starting point for the organisation of the PULLs in the follow-up cases.

Task 5.4 Carrying out the PULLs in four follow-up cases (Months #23-42)

Task leader: UNINA (4 PM); Partners: TUD (2 PM), UGHENT (3 PM), HCU (4 PM), RKI (3PM), IGiPZ (3 PM), JRC (2 PM), GEO-Col (0.5 PM), Biokom (2 PM), GGR (0.5 PM), OVAM (2 PM), CRA (0.5 PM), PHH (4 PM), Bauer (1.5 MP), IVAGO (2 PM), SRH (2.5 PM);

Task 5.4 carries out the PULLs in the follow-up studies and integrates activities from several WPs in order to develop eco-innovative solutions for specific challenges as well as strategies for CE. This is done during a series of design weeks and interlinked design workshops with students and stakeholders. (see 1.3.3.4 for details)

Task 5.5 Documentation of eco-innovative solutions (Months #15-18 and #30-48)

Task leader: UNINA (5 PM); Partners: TUD (2 PM), others (0.5 PM);

Task. 5.5 produces catalogues of eco-innovative solutions and change strategies for internal knowledge transfer (WP 7), dissemination (WP 8) and use in the GDSE (WP 2) from the results of T 5.3 and 5.4.

Participation per Partner

Partner number and short name	WP5 effort
1 - TUD	17.00
2 - UGENT	5.50
3 - UNINA	33.00
4 - HCU	2.00
5 - RKI	9.00
6 - IGiPZ	9.00
7 - JRC	5.00
8 - Geo-Col	2.50
9 - Delta	3.00
10 - BIOKOM	3.00
11 - GGR	1.00
12 - OVAM	3.00
13 - GHM	3.50
14 - CAMPANIA	6.00
15 - PHH	5.00
16 - BAUER	3.00
17 - IVAGO	3.00
18 - SRH	3.50
Total	117.00

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D5.1	PULL Handbook	3 - UNINA	Report	Public	5
D5.2	Eco-innovative solution Amsterdam	1 - TUD	Other	Public	21

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D5.3	Eco-innovative solutions Naples	3 - UNINA	Other	Public	21
D5.4	Handbook: How to run a PULL	3 - UNINA	Report	Public	21
D5.5	Eco-innovative solutions Ghent	2 - UGENT	Other	Public	32
D5.6	Eco-innovative solutions Łódź	6 - IGiPZ	Other	Public	35
D5.7	Eco-innovative sokutions Hamburg	4 - HCU	Other	Public	38
D5.8	Eco-innovative solutions Pécs	5 - RKI	Other	Public	41
D5.9	Final Updated Handbook: How to run a PULLs for dissemination purposes	3 - UNINA	Report	Public	48

Description of deliverables

Deliverables

D 5.1: Methodological guidelines (Handbook) for the PULLs (month #5);
D 5.2a and b: Catalogue of solutions and strategies for Amsterdam and Naples (month #21)
D 5.3: Handbook: How to run a PULLs. (month #20)
D 5.4a to d: Catalogue of solutions and strategies for follow up cases. (month #32, #35, #38, #41)
D 5.5: Updated Handbook: How to run a PULLs for dissemination purposes. (month #48)

D5.1 : PULL Handbook [5]

Methodological guidelines to conduct the PULLs.

D5.2 : Eco-innovative solution Amsterdam [21]

Catalogue of solutions and strategies developed in Amsterdam in form of drawings (GIS)-maps, data bases and reports.

D5.3 : Eco-innovative solutions Naples [21]

Catalogue of solutions and strategies developed in Naplesin form of drawings (GIS)-maps, data bases and reports.

D5.4 : Handbook: How to run a PULL [21]

Handbook 'How to run a PULL' for follow up studies as well as for dissemination purposes.

D5.5 : Eco-innovative solutions Ghent [32]

Catalogue of solutions and strategies developed in Ghentin form of drawings (GIS)-maps, data bases and reports.

D5.6 : Eco-innovative solutions Łódź [35]

Catalogue of solutions and strategies developed in Łódź in the form of drawings (GIS)-maps, data bases and reports.

D5.7 : Eco-innovative sokutions Hamburg [38]

Catalogue of solutions and strategies developed in Hamburg in form of drawings (GIS)-maps, data bases and reports.

D5.8 : Eco-innovative solutions Pécs [41]

Catalogue of solutions and strategies developed in Pécs in form of drawings (GIS)-maps, data bases and reports.

D5.9 : Final Updated Handbook: How to run a PULLs for dissemination purposes [48]

Updated Handbook: How to run a PULL for dissemination purposes.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS18	Preparation of Pilot Pulls	3 - UNINA	5	Definitive location, organizational settings and educational outline for two pilot PULLs. Amsterdam and Naples ready and agreed on by the project board. Facilitation of PULLs secured.
MS19	International Student Workshops	1 - TUD	21	International student workshops bringing together the multidisciplinary teams from both pilot cases (month #13 and #21) WS took place and outputs are documented on the project webpage.
MS20	First Set of solutions for pilot cases	3 - UNINA	15	First set of solutions for a selection of challenges in pilot cases is ready for testing the GDSE.
MS21	Organizational settings of PULLs for follow-up studie	3 - UNINA	15	Definitive location and organizational settings of PULLs for follow-up studies ready and agreed on by the project board and facilitation of PULLs is secured.
MS22	Student Presentation follow up Pulls	3 - UNINA	31	Final presentation and evaluation of student work of the follow-up PULLs. (months #22, 25, 28, 31). Presentations took place in front of members of the consortium and key stakeholders of the area. Results documented on the project webpage.

Work package number ⁹	WP6	Lead beneficiary ¹⁰	4 - HCU
Work package title	Developing and implementing decision models		
Start month	1	End month	38

Objectives

Objectives

The main objective is to develop and implement decision models. WP 6 has the following sub-objectives:

- Analyse the decision making landscape of the six case study areas (stakeholders, processes, legal framework)
- Develop decision models for all six geodesign studies based on the outputs of WP3-5 and in connection with the analysis of the decision making landscape.
- Implement these decision models in cooperation with stakeholders in the six case study areas
- Connect the outcomes of WP6 with those of WP2 and insert the decision models into the GDSE.

Description of work and role of partners

WP6 - Developing and implementing decision models [Months: 1-38]

HCU, TUD, UGENT, UNINA, RKI, IGIPZ, JRC, Geo-Col, Delta, BIODKOM, GGR, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

Task 6.1 Analysis of the decision making landscape in the case study areas (Months #1-12)

Task leader: HCU (5 PM); Partners: TUD (1 PM), OVAM (1 PM), IGIPZ (1 PM), RKI (6 PM), others (0.3 PM);

The aim of task 6.1 is to understand the decision making structure and processes with regard to the resource management and circular economy of the six case study areas:

- first step, information about actors and institutions is collected from existing sources and through interviews with local project partners and key persons. (Who are the public/private stakeholders? Key stakeholders will already be involved in user and advisory boards.)
- second step, a profound document analysis (legal frameworks, contracts, and newspaper articles) is undertaken. Analysing interrelation of decision possibilities of stakeholders and frame conditions (contracts, laws, legal standards, cultural norms, existing infrastructure);

Based on the two previous steps interviews with actors and institutions are conducted to answer the following questions:

- Which are the priorities of the key actors?
- Are peoples' positions known?
- What are the objectives and requirements of the decision makers?
- What do the decision makers need to know in order to implement change?
- What is the relative importance of objectives, and what are these objectives based on?

As a first product, a report comparing the governance structure and decision processes in all case study areas is being compiled.

Partner Responsibilities:

- HCU lead on development of analysis framework, conduction of analysis, interviews, elaboration of report;
- RKK co-responsible: analysis framework, conduction of interviews, analysis, elaboration of report: (6 Person Months),
- OVAM input on analysis framework, practicability check.
- Others: supporting the identification of and contact with their case specific stakeholders;

Task 6.2 Development of decision models for all case studies (Months #13-18)

Task leader: HCU (5 PM); Partners: RKI (6 PM), IGIPZ (1 PM), OVAM (2 PM), others (0.3 PM);

The aim of task 6.2 is to develop methods to relate the impacts of the change models with the priorities of the key actors through:

- Finding out which consequences of change models are considered most important by the key actors.
- Providing a methodology to allow decision makers to decide among different change possibilities.
- Connecting the outputs of WP3-5 with the outputs of a) analysis of decision making landscape.
- Developing a methodology to assess whether scale of scoping, change and assessment coincide with the scale needed for decision.

As product various decision models for the case study areas will be proposed.

Partner Responsibilities:

- HCU: lead on development of methods and methodologies, overview description of models.

- RKI: co-responsible for development of methods and methodologies, overview description of models;
- OVAM: input on methods and models, practicability check;
- Others: delivering input on different models for their case study areas.

Task 6.3 Implementation of decision (support) models (Months #16 -23)

Task leader: HCU (6 PM); Partners: RKI (6 PM), OVAM (1 PM), others (0.4 PM)

The aim of task 6.3 is to test the proposed decision models in their practical implementation in the case study areas together with the relevant stakeholders.

- While being implemented in the case study areas the decision support models will be tested, analysed and evaluated.
- Based on the results of the evaluation process, the decision support models will be refined and improved for practical implementation.

• A cross analysis of the testing phase of the decision support models in all case study areas will be conducted in order to identify case study independent success and obstacle factors. This cross analysis will safeguard the transferability and replicability of the developed and tested decision support models.

Partner Responsibilities:

- HCU: Lead on coordination of the implementation of the decision support models; analysis and evaluation; improvement of decision models; cross analysis;
- RKI co-responsible on coordination of the implementation of the decision support models; analysis and evaluation; improvement of decision models; cross analysis.
- OVAM: monitoring of the implementation models with emphasis on practicability topics
- Others: steering the implementation of the decision models in their case study areas, deliverance of experience with the implementation of decision models;

Task 6.4 Integration of the decision models and the geo-design decision support environment (Months #11-38)

Task leader: TUD (3 PM); Partners: HCU (2 PM), RKI (2 PM)

Task 6.4 integrates the transferable and replicable results on decision support models into the multi criteria decision support environment of the GDSE, to be able to use the results of WP 6 in the stakeholder workshops.

Partner Responsibilities:

- TUD leading the coordination of the integration;
- HCU and RKI supporting the integration;

Participation per Partner

Partner number and short name	WP6 effort
1 - TUD	4.70
2 - UGENT	1.00
3 - UNINA	1.00
4 - HCU	18.00
5 - RKI	20.00
6 - IGIPZ	2.40
7 - JRC	0.70
8 - Geo-Col	0.70
9 - Delta	2.00
10 - BIOKOM	0.70
11 - GGR	0.40
12 - OVAM	4.00
13 - GHM	1.00
14 - CAMPANIA	1.00
15 - PHH	1.00

Partner number and short name	WP6 effort
16 - BAUER	0.70
17 - IVAGO	1.00
18 - SRH	1.00
Total	61.30

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D6.1	Governance and decision processes in pilot cases	4 - HCU	Report	Public	6
D6.2	Governance and decision processes in follow up cases	4 - HCU	Report	Public	12
D6.3	Decision models pilot studies	4 - HCU	Report	Public	14
D6.4	Decision models follow up studies	4 - HCU	Report	Public	18
D6.5	Cross analyses decision models	4 - HCU	Report	Public	23
D6.6	Decision models for GDSE	1 - TUD	Other	Confidential, only for members of the consortium (including the Commission Services)	30

Description of deliverables

D 6.1 a and b Reports comparing the governance structure and decision processes in all case study areas (for pilot studies month #6; for follow-up cases month #12)

D 6.2 a and b Description decision models for all case study areas and overview study on all decision models. (for pilot studies month #14; for other cases month #18)

D 6.3 Report on cross analysis on the developed and tested decision support models. (for pilot studies month #19; for other cases month #23)

D 6.4a and f Input of decision models into the geo-design decision support environment. (for pilot studies month #22; for follow-up cases month #30)

D6.1 : Governance and decision processes in pilot cases [6]
Report comparing the governance structure and decision processes in pilot case study areas.

D6.2 : Governance and decision processes in follow up cases [12]
Report comparing the governance structure and decision processes in follow up case study areas.

D6.3 : Decision models pilot studies [14]
Description decision models for all pilot studies.

D6.4 : Decision models follow up studies [18]
Description of decision models for all case study areas and overview study on all decision models.

D6.5 : Cross analyses decision models [23]

Report on cross analysis on the developed and tested decision support models.

D6.6 : Decisionmodels for GDSE [30]

Input of decision models into the geo-design decision support environment. (pilot studies moth 22 follow up month 30)

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS23	List of key priorities of stakeholders in pilot cases	4 - HCU	6	First list of key priorities of stakeholders in pilot studies available and ready to be integrated into GDSE testing.
MS24	Draft decision models for pilot studies	1 - TUD	10	Draft decision models for GDSE developing in pilot studies. Decision models integrated into GDSE for testing.
MS25	Key priorities of stakeholders in follow-up studies	4 - HCU	12	First list of key priorities of stakeholders in follow-up studies ready to be integrated into GDSE.
MS26	Draft decision models for follow-up studies	4 - HCU	24	Draft decision models in follow-up studies ready to be integrated into the GDSE.

Work package number ⁹	WP7	Lead beneficiary ¹⁰	5 - RKI
Work package title	Knowledge transfer between cases		
Start month	1	End month	47

Objectives

The goal of WP7 is to elaborate a methodology for knowledge transfer that reveals the most effective and appropriate knowledge transfer channels, tools and processes across peri-urban areas with differentiated knowledge, technological, socio-cultural and governance characteristics.

WP7 draws on the results from WP 3 - 6 to (1) promote knowledge transfer across case study areas; and to (2) provide the users of REPAiR's outputs with a generally applicable methodology facilitating successful knowledge transfer. The objects of the transfer across the case study areas will be eco-innovative solutions and strategies defined in the living labs.

Description of work and role of partners

WP7 - Knowledge transfer between cases [Months: 1-47]

RKI, TUD, UGENT, UNINA, HCU, IGiPZ, JRC, Geo-Col, Delta, BLOKOM, GGR, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

Task 7.1. Analysis of the theory of knowledge transfer (Months #1-9)

Task leader: TUD (2 PM); Partners: UNINA (1 PM), HCU (1 PM), RKI (2 PM);

This task will entail a critical review of the theoretical literature on knowledge transfer and the related concepts (policy transfer, lesson-drawing, policy diffusion) in order to provide an input for Task 7.2. and to establish a conceptual framework for the further tasks in WP 7.

Task 7.2 Analysis of the characteristics of the case study areas for the purpose of knowledge transfer (Months #9-26)

Task leader: RKI (8 PM); case study responsible Partners: TUD (2 PM), UGENT (1 PM), UNINA (2 PM), HCU (2 PM), IGiPZ (2 PM), all others (0.2 PM)

Drawing on inputs from WPs 3-6, Task 7.2 identifies the characteristics of each of the case study areas that influence the transferability of knowledge across them. This will entail investigating four categories of characteristics: (1) governance scope: characteristics of the national and sub-national institutional systems in which the stakeholders operate (input from WP 6); (2) socio-cultural scope: social and cultural characteristics that affect the behaviour of actors (input from WPs 2-5); (3) technological and eco-innovative scope: characteristics determining the capacity to generate new technologies and eco-innovations (input from WP 5); (4) metabolic scope: territorial characteristics that shape metabolic flows (input from WPs 3, 4).

Data on the characteristics of case study areas will also be sourced from the students' assignments (teaching courses in WP 5) and from the literature and the available statistical data sources (e.g. Eurostat, ESPON, OECD Regional Database, European Innovation Scoreboard, Eurobarometer). The analysed peculiarities of case study areas in WP 7 will be fed back iteratively to the living labs' activities as part of WP 5.

Task 7.3 Organising knowledge transfer events as part of the PULLs in case study areas (Months #12-17)

Lead partner: TUD (1 PM); Participants: RKI (1 PM), all other partners (feed in data from WP2-6 and participation in workshops in the PULLs (0.1 PM)

Task 7.4 will entail organizing six knowledge transfer events bringing together the relevant stakeholders as part of the living labs in two case study areas. The purpose of these events is to demonstrate transferable solutions as well as to gather feedback from them that will be used to refine the methodology of knowledge transfer (Task 7.4) and to elaborate the online handbook of knowledge transfer (Task 7.5).

Task 7.4 Building a methodology for knowledge transfer (Months #25-36)

Lead partner: RKI (6 PM)

Participants: TUD (3 PM), UNINA (2 PM), UGent (2 PM), HCU (1 PM), IGiPZ (4 PM) (BLOKOM (3 PM).

Task 7.3 will build on inputs from Tasks 7.1 and 7.2 to establish a knowledge transfer methodology. This will allow for avoiding fruitless efforts to copy and apply strategies and solutions that are not transferable between the particular contexts; and ensure an informed, strategic and, hence, successful transfer of knowledge across the case study areas. Building of the methodology will entail identifying the main barriers to successful knowledge transfer across differentiated socio-spatial contexts and defining a typology of strategies and solutions that will help to filter and tailor them to the characteristics of the different urban settings. Reflecting a bottom-up approach, the methodology will draw on inputs provided by stakeholders in living labs.

Task 7.5 Creating an online handbook of transferable solutions and methods to facilitate transfer (Months #31-42)

Lead partner: RKI (3 PM); Participants: TUD (2 PM), check of translation: UNINA (0.1 PM), U Ghent (0.1 PM), HCU (0.1 PM), IGiPZ (0.1 PM), all others input and feedback on the handbook (0.1PM).

The open access online handbook will present the methodology for ensuring that the transfer of strategies and eco-innovative solutions defined in living labs to other contexts is purposeful, tailored to the local context and, thus, successful. The handbook will (1) introduce the theoretical model of knowledge transferability; (2) describe the key lessons on transfer of knowledge drawn from REPAiR; (3) discuss the potential barriers and characteristics of the knowledge transfer observed; and (4) offer guidelines for better transferability by taking the local peculiarities into consideration. To broaden its user base, the handbook will be written in a non-technical and accessible language, the partners from the industry and local / regional authorities will be involved in drafting of the handbook (Task 7.4), and it will also be published in the languages used in the case study areas.

Participation per Partner

Partner number and short name	WP7 effort
1 - TUD	10.00
2 - UGENT	3.20
3 - UNINA	5.20
4 - HCU	4.20
5 - RKI	20.00
6 - IGiPZ	7.10
7 - JRC	0.40
8 - Geo-Col	0.40
9 - Delta	1.00
10 - BIOKOM	3.40
11 - GGR	0.40
12 - OVAM	0.40
13 - GHM	0.40
14 - CAMPANIA	0.40
15 - PHH	0.40
16 - BAUER	0.40
17 - IVAGO	0.40
18 - SRH	0.40
Total	58.10

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D7.1	Theoretical model of knowledge transfer	1 - TUD	Report	Public	24
D7.2	Handbook knowledge transfer	5 - RKI	Other	Public	39

Description of deliverables

D 7.1: A report outlining the methodology knowledge transfer. (month #36)
D 7.2: An online handbook for knowledge transfer in English, Dutch, German, Hungarian, Italian and Polish. (month #39)

D7.1 : Theoretical model of knowledge transfer [24]
Theoretical model of knowledge transfer across peri-urban areas

D7.2 : Handbook knowledge transfer [39]
On-line handbook for knowledge transfer for dissemination purposes

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS27	Knowledge Transfers Events	1 - TUD	31	Organizing and conducting knowledge transfers events as part of PULLs. (months #13 ,17, 22, 25, 28 and 31)
MS28	methodology for knowledge transfer	5 - RKI	22	Draft methodology for knowledge transfer ready and agreed on by the project board.

Work package number ⁹	WP8	Lead beneficiary ¹⁰	6 - IGiPZ
Work package title	Dissemination and Exploitation		
Start month	1	End month	48

Objectives

The overall aim of this work package is to maximize the impact of REPAiR's results. Its objectives are to:

- Deliver the dissemination and exploitation strategies (section 2.2) and extend the outreach of the project;
- Ensure the transfer of knowledge and expertise to the identified target groups;
- Ensure the intellectual property management (IP), including data management and the fulfilment of the general principles regarding the protection and exploitation of the foreground IP;
- Prepare the path for future uptake of the GDSE tool and ensure utilization of the project's results.

The importance of disseminating and exploiting the REPAiR results is recognised and several actions and mechanisms will be put in place to achieve this.. To achieve these objectives, the dissemination and exploitation activities of the project will be coordinated and monitored by the dissemination manager DEM (Magdalena Górczyńska, IGiPZ), and the exploitation manager, respectively. Though the implementation of the dissemination and exploitation strategy, as described in section 2.2, the outreach to the full range of target groups potentially interested in the project outcomes will be ensured.

Description of work and role of partners

WP8 - Dissemination and Exploitation [Months: 1-48]

IGiPZ, TUD, UGENT, UNINA, HCU, RKI, JRC, Geo-Col, Delta, BIODOM, GGR, OVAM, GHM, CAMPANIA, PHH, BAUER, IVAGO, SRH

Task 8.1. Internal guidelines for dissemination (Months #1-3)

Task leader: IGiPZ (2 PM); Partners: TUD (0.5 PM), JRC (0.5 PM), RKI (0.5 PM)

Task 8.1 will define common principles of internal communication throughout the project lifetime. For each deliverable it shall specify the communication channels, targeted end users and responsible partner(s). The Internal communication plan (ICP) will be a living document accessible to all partners via the project's website and regularly updated in the periods corresponding to the project's milestones.

Task 8.2. Development of Corporate identity (Months #1-2)

Task leader: UNINA (2 PM); Partners: TUD (0.5 PM); IGiPZ (0.5 PM)

This task is related to elaboration of the corporate identity including: (1) definition of guidelines in terms of corporate design (logo, tag lines, colours, font, graphics); (2) creation of identity materials and layouts for communication deliverables which correspond to the identified types of end users; (3) outline of how these materials should be used in the promotion and presentation of the project.

Task 8.3. Development of the dissemination plan and dissemination kit (months #1-3 and #19 -20)

Task leader: IGiPZ (2 PM); Partners: TUD (1 PM), JRC (1 PM), RKI (1 PM), DELTA (0.5 PM), OVAM (0.5 PM)

The dissemination plan will match particular channels of dissemination (website, newsletter, workshops, scientific conferences, etc.) with the deliverables (reports, scientific articles, features in online and printed media, handbook, software) and with the identified groups of end-users (academics, practitioners, NGO's and students). This will ensure that the results of the project (at any stage) are shared with appropriate audiences and in a comprehensible manner. A basis dissemination kit will be delivered along with the detailed dissemination plan. A comprehensive dissemination kit will delivered at the end of the project. It will provide a comprehensive package of PR material, explaining the essence of the REPAiR project and including, among other things, the descriptions of the project results, visual materials (infographics, pictures) and videos to communicate the REPAiR project in the broadest sense.

Task 8.4. REPAiR project website (Months #1-48)

Task leader: IGiPZ (creation, maintenance, deliverables; 3PM); Partners: UNINA (design, deliverables; 1PM), GGR (software support; 1PM), UG, HCU, RKI (resources and deliverables from each WP; 1 PM per partner), TUD (updated info about project itself; 2 PM)

This task will establish the project's website. The website will above all provide a principal channel for dissemination and exploitation. It will include project presentation, open access documents (project reports, GDSE manual, knowledge transfer handbook, papers, etc.), downloadable GDSE software package, links to related projects, news section, etc. It will also include an embedded social media component and regularly updated project news, coupled with a calendar

of the events organized as part of REPAiR. Finally, it will provide a platform for internal exchange and collaboration within the project consortium.

Task 8.5. Data management (Months #1-48)

Task leader: TUD (coordination, 3 PM); Partners: UNINA, RKI, HCU, IGiPZ, UG (PULLs leaders responsible for collecting and providing the data; 0.5 PM per Partner), GGR (0.5 PM)

For each data type generated by the project, a widely used, open and easy-to-share file format will be used to store the data in the OpenEarth DataLab (see 2.2.4). The research data gathered will be described in a data management plan that will be delivered early on in the project's timeline, following the guidelines set by the European Commission, and updated over the course of the project. Since the project data management plan is expected to mature during the course of the project, a more updated version of the plan will be developed in the middle of the project. A final version of the plan, which will include information about how these data will be exploited and/or shared/made accessible for verification and re-use, and how this data will be curated and preserved, will be developed at the end of the project. The purpose of the data management plan within REPAiR is to support the data management life cycle for all data that will be collected, processed or generated.

Task 8.6. Promotion and external dissemination of the project's results (Months #8-48)

Task leader: IGiPZ (5 PM); Partners (all): TUD (2 PM); UGHENT (0.5 PM), UNINA (0.5 PM), RKI (2.5 PM), JRC (dissemination mainly at the EU level; 3 PM); all other partners each 1 PM, members of the user board

This task will entail raising awareness and dissemination of REPAiR's research approach and scientific and technical results to the key target audiences, which requires an accurate adaptation of the channels of dissemination and its forms.

The target audiences for dissemination are specified in section 2.2.1.

Task 8.7. Strategy for exploitation of results (months #24-36)

Task leader: TUD (coordination 3 PM); all other partners provide feedback, each 0.1PM

An exploitation plan will be produced to ensure future uptake of the GDSE by public authorities and the use of the knowledge and deliverables generated as part of REPAiR. The plan will be tailored and oriented to the specific groups of end users, as defined in section 2.2.1.

Participation per Partner

Partner number and short name	WP8 effort
1 - TUD	12.00
2 - UGENT	3.00
3 - UNINA	4.10
4 - HCU	2.10
5 - RKI	4.60
6 - IGiPZ	13.10
7 - JRC	6.10
8 - Geo-Col	1.10
9 - Delta	1.60
10 - BIODKOM	3.10
11 - GGR	2.60
12 - OVAM	1.60
13 - GHM	1.10
14 - CAMPANIA	1.10
15 - PHH	1.10
16 - BAUER	1.10
17 - IVAGO	1.10
18 - SRH	1.10

Partner number and short name	WP8 effort
Total	61.60

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D8.1	Corporate identity	3 - UNINA	Other	Public	2
D8.2	Communication Handbook	6 - IGiPZ	Report	Public	3
D8.3	Basic Dissemination plan	6 - IGiPZ	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D8.4	Data management plan	1 - TUD	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D8.5	Project website	6 - IGiPZ	Other	Public	6
D8.6	Dissemination Plan and Dissemination Kit	6 - IGiPZ	Report	Public	12
D8.7	Scientific publications	6 - IGiPZ	Other	Public	48
D8.8	Workshops, press conferences, policy oriented seminars	6 - IGiPZ	Other	Public	48
D8.9	Exploitation plan	6 - IGiPZ	Report	Public	36
D8.10	Dissemination Kit	6 - IGiPZ	Report	Public	48
D8.11	Final data management plan	1 - TUD	ORDP: Open Research Data Pilot	Public	48
D8.12	Dissemination and exploitation report	6 - IGiPZ	Report	Public	48

Description of deliverables

D 8.1. Corporate identity (month #2)
 D 8.2. Communication Handbook (month #3)
 D 8.3 Basic Dissemination plan (month #3)
 D 8.4. Draft Research Data management plan (month #6)
 D 8.5 Project website (month #6)
 D 8.6 Detailed Dissemination Plan and Dissemination Kit (month #12)
 D 8.7 Scientific publications (months #22-48)