Predictive model-based decision support for diabetes patient empowerment
POWER2DM BACKGROUND

  - Self management of health and disease and decision support systems based on predictive computer modelling used by the patient him or herself

- **Expected impact:**
  - Improving the participation of the patient in the care process.
  - Improving the management of a disease by reducing the number of severe episodes and complications.
  - Increasing the importance of the prevention sector in healthcare using predictive modelling.
  - Boosting the development of personal devices used for self-management of health.
  - Improving individual self-control of health and of disease prevention
The main objective of POWER2DM is to develop and validate a personalized self-management support system (SMSS) for Type-1 and Type-2 diabetes patients that combines and integrates: (i) a decision support system (DSS) based on interlinked predictive computer models; (ii) automated e-coaching and advice functionalities based on Behavioural Change Theories; and (iii) real-time personal data processing and interpretation.

POWER2DM was awarded the maximum score (5 points) on each of the criteria: Excellence, Impact and Implementation.

POWER2DM’s budget is 5MEuro and it will run 42 months starting Feb 1, 2016.
## POWER2DM consortium partners and roles

<table>
<thead>
<tr>
<th>Participant organization name</th>
<th>Part. short name</th>
<th>Country</th>
<th>Role in the Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek</td>
<td>TNO</td>
<td>NL</td>
<td>Coordinator, Innovation &amp; Dissemination Manager, Predictive Models, Behaviour Change Interventions</td>
</tr>
<tr>
<td>Institute of Diabetes “Gerhardt Katsch” Karlsburg</td>
<td>IDK</td>
<td>DE</td>
<td>Predictive Models, Clinical Expertise, Pilot Site</td>
</tr>
<tr>
<td>SRDC Yazilim Arastirma ve Gelisirme ve Danismanlik Ticaret Limited Sirketi</td>
<td>SRDC</td>
<td>TR</td>
<td>ICT development; Decision Support, eHealth Infrastructure, web/mobile GUI</td>
</tr>
<tr>
<td>Leiden University Medical Center</td>
<td>LUMC</td>
<td>NL</td>
<td>Pilot Site, Clinical Expertise, Evaluation, Ethical Manager</td>
</tr>
<tr>
<td>SAS Servicio Andaluz de Salud</td>
<td>SAS</td>
<td>ES</td>
<td>Pilot Site, Clinical Expertise</td>
</tr>
<tr>
<td>Salzburg Research Forschungs Gesellschaft</td>
<td>SRFG</td>
<td>AT</td>
<td>Decision Support, Behaviour Change Interventions</td>
</tr>
<tr>
<td>PrimeData</td>
<td>PD</td>
<td>NL</td>
<td>Data integrator</td>
</tr>
<tr>
<td>iHealth EU</td>
<td>iHealth</td>
<td>FR</td>
<td>Exploitation manager, Sensor network, mHealth Provider</td>
</tr>
</tbody>
</table>
... From Existing Models & Tools and POWER2DM R&D Lines to Guidance Provided to Patients

POWER2DM CHARACTERISTICS

POWER2DM Project
TO1 - Deliver a personalized, integrated SMSS that offers action (care) plans in terms of changes in lifestyle, nutrition, physical activity and therapy adjustment for short term optimal metabolic control, medium term prevention of deterioration and long term avoidance of diabetes complications.

TO2 - Deliver a patient-targeted decision support system (DSS) by utilizing and interlinking predictive models for the short- (KADIS), medium- (MT2D-Marvel), and long-term (risk score models).

TO3 - Deliver an innovative Action Plan Engine building on EMPOWER, for personalized adaptive computer-aided health behaviour change interventions to support the patient to obtain and maintain healthy behaviour change.
POWER2DM TECHNICAL OBJECTIVES (2)

- **TO4** - Deliver a cloud-based Data Integration Platform to collect and process the patient data in real time, establishing the patient profile. The bottom layer of this platform will be built up from integrated existing personal health systems, wearable sensors and mobile self-monitoring device data sources, for real-time collection of clinical, patient, therapeutic, behavioural, lifestyle, physical activity and dietary data. The upper layer, running on the cloud, will consist of a well-defined data model and API to process the data, enrich the data semantically, perform data quality assessment and store the result as time series data for the use by the predictive decision support and computer-aided health behaviour change intervention systems.

- **TO5** - Deliver validation proof of the integrated SMSS system in terms of health outcomes, adherence to care programmes, acceptance of the new organizational process including the ICT components by care providers. Validation will take place in three existing regional settings in The Netherlands, Spain and Germany, using POWER2DM functionalities connected with different regional self-management support systems and following the regional guidelines for diabetes care.

- **TO6** - Deliver a mobile interface to the POWER2DM SMSS for use on smart phones and tablets, thus stimulating EU industry in the area of personal devices, eHealth and self-management support tools.
The project consists of 8 Workpackages

POWER2DM WP STRUCTURE
WP1-OVERALL DESIGN AND INTEGRATION

- WP leader: SRDC Software Research and Development Company

POWER2DM SMSS Architecture
WP1 - OBJECTIVES

- Definition of scenarios and storyboard to illustrate and facilitate discussion about the POWER2DM SMSS framework for the architecture and the design of the care process for care provider and especially the support of the self-care process and the glucose management of the patient.

- Definition of the scientific problem, analysing the scientific and technical requirements of POWER2DM architecture and its components.

- Designing POWER2DM architecture and its components by ensuring co-design and co-production between end users, the technical team and the external stakeholders via communication and liaison activities.

- Realizing the POWER2DM system by integrating all of the components according to the design before the experimentation and piloting phase.

- Assuring the quality and correctness of the software by continuous testing activities.

- Providing and managing software releases and prototypes.
WP2 – PREDICTIVE FRAMEWORK

WP leader: IDK Institut für Diabetes Karlsburg

POWER2DM collected data, predictive models, prediction and simulation capabilities
KADIS (KArlsburg Diabetes Information System): short-term prediction model, based on 24-72h glucose profiles, that generates a personal metabolic fingerprint and allows to simulate different intervention strategies. Developed and validated by partner IDK Karlsburg, in operational use for the TeleDIAB® program (http://www.diabetes-service-center.de/).

MT2D-Marvel: 1-6 year forecasting model for the simulation of the effect of Type-2 diabetes lifestyle interventions. Developed by partner TNO in EU-FP7 project MISSION-T2D (http://www.mission-t2d.eu/).

Risk Score Models: a collection of long-term prediction models for various diabetes complications. These models use sets of risk factors based on analysis of cohort studies.
KADIS® DIABETES MANAGEMENT (WP2)

**Data**
(Semi) Continuous Glucose Monitoring data

24h Medication/lifestyle data: carbohydrate intake, exercise, insulin administration, glucose-lowering medicine use

Basic data: Age, gender, BMI, onset & type of diabetes

**Control system model**

Simulated 24h plasma insulin profile

Fasting plasma glucose and insulin for HOMA-2

**Decision Support (DSS) functionality**
Interactive simulations to decide on improved lifestyle/medicine scenario overcoming weak points

**Result**

Personal parameter determination based on all data. Graphical display for the user.

---


MT2D-MARVEL MODEL (WP2)

- Causal effect model
- High aggregation level, 1-6 years timescale
Model use: scenario simulations

Example: chronic large excess food intake results in an increasing Body Mass Index over the simulated period of 6 years, accompanied by an almost complete deterioration of insulin sensitivity and an increase of inflammation. Beta cell function compensates in the first ~3 years but declines afterwards, whereafter glucose levels start to rise strongly.

Validation: very similar patterns reported for Whitehall II cohort.
RISK SCORE MODELS (WP2)

- Model use: estimation % risk for getting diabetes complications

  e.g. Prediction of kidney-related outcomes in patients with type-2 diabetes.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Major Kidney-Related Events (n = 10,506)</th>
<th>New-Onset Albuminuria (n = 7,286)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (men vs women)</td>
<td>2.45 (1.68-3.55)</td>
<td>1.67 (1.52-1.83)</td>
</tr>
<tr>
<td>Ethnicity (Asian vs non-Asian)</td>
<td></td>
<td>0.94 (0.92-0.96)</td>
</tr>
<tr>
<td>eGFR (per 10-mL/min/1.73 m² increase)</td>
<td>0.61 (0.56-0.68)</td>
<td>1.57 (1.48-1.66)</td>
</tr>
<tr>
<td>Urinary ACR (per log μg/mg increase)</td>
<td>1.57 (1.40-1.75)</td>
<td>1.57 (1.48-1.66)</td>
</tr>
<tr>
<td>Systolic blood pressure (per 10-mm Hg increase)</td>
<td>1.12 (1.05-1.21)</td>
<td>1.04 (1.02-1.06)</td>
</tr>
<tr>
<td>Blood pressure-lowering treatment at baseline (yes vs no)</td>
<td>1.20 (1.11-1.31)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hemoglobin A₁c (per 1% increase)</td>
<td>1.12 (1.05-1.23)</td>
<td>1.04 (1.02-1.07)</td>
</tr>
<tr>
<td>Diabetic retinopathy (yes vs no)</td>
<td>1.52 (1.09-2.14)</td>
<td>1.28 (1.18-1.40)</td>
</tr>
<tr>
<td>Waist circumference (per 10-cm increase)</td>
<td>—</td>
<td>1.05 (1.01-1.08)</td>
</tr>
<tr>
<td>Age at completion of formal education (≤16 vs ≥18 y)</td>
<td>1.51 (1.08-2.11)</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: Each model adjusted for randomly assigned treatments.
Abbreviations: ACR, albumin-creatinine ratio; CI, confidence interval; eGFR, estimated glomerular filtration rate; HR, hazard ratio.


Other diabetes complications: cardiac failure, foot ulcers, microvascular complications, retinopathy
The primary goal of WP2 is to develop innovative programs, modules, and tools for short-term (Task 2.1) and long-term (Task 2.2) risk detection and risk prevention (Task 2.3) in personalized diabetes care and management by supporting patients efficiently in diabetes home monitoring and diabetes home care with patient-centered, real time decision support systems (DSS) which can finally be implemented into mobile-phone-based self-management equipments (Task 2.4).
WP3 – DECISION SUPPORT SYSTEM

WP leader: Salzburg Research Forschungs Gesellschaft

DSS Functionalities
- Personal Weak Point support for Daily Metabolic Profile
- Daily Glucose Management Support
- Meal/Lifestyle Simulations
- Mid Term Lifestyle simulations
- Guided Goal Setting
- Planning further examinations and tests
- Long term forecasts and simulations

Examples
- * Which meals to take?
- * Yes/no/how much physical exercise?
- * Yes/no medicine compliance?
- * Is my therapy optimal, Do I need to see a doctor?
- * Which and how much lifestyle change is required and optimal for me for a certain objective?
- * Yes/no to discuss this with doctor?
- * Which goals to set for a healthier lifestyle plan?

POWER2DM predictive models, DSS Functionalities, and their way of guidance for individuals
WP3 - OBJECTIVES

- The overall goal of WP3 is the design and development of a personalised decision support system, in particular:
  - To select the required self-management DSS functionalities
  - To develop dynamic behaviour change intervention models for a personalised decision support system based on behaviour change theory (BCT)
  - To improve the EMPOWER Recommender Engine for automated adaption of goals and action plan based on predictions (WP2)
  - To improve the EMPOWER Action Plan Engine and develop a guidance-based goal specification process including a feedback mechanism based on the available patient profile and WP2’s Predictive Framework
  - To develop the Web and Mobile-phone GUI components to deliver the DSS functionality and behavioural change interventions
  - To integrate the models, services and the GUI components into Personalized Self-Management DSS System for guided goal setting, activity planning needed to foster behavioural changes, delivering adaptive BCT interventions.
# WP4 – PERSONAL DATA INTEGRATION PLATFORM

**WP leader: PrimeData**

<table>
<thead>
<tr>
<th>Data</th>
<th>Action to Collect</th>
<th>Related System</th>
<th>Frequency of Collection</th>
<th>Burden on Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Health Data</td>
<td>Data Integration</td>
<td>EHR</td>
<td>Once</td>
<td>None</td>
</tr>
<tr>
<td>Health Questionnaires</td>
<td>Filling out the Questionnaires</td>
<td>EHR</td>
<td>Initially and before every co-decision making/evaluation visit (2-4 per year)</td>
<td>Minimal</td>
</tr>
<tr>
<td>24h Glucose Monitoring Data</td>
<td>Device Integration</td>
<td>GM/CGM Device</td>
<td>Initially and for every therapy change (2 per year)</td>
<td>High</td>
</tr>
<tr>
<td>24h Intensive Lifestyle and Medication Monitoring (2 days long)</td>
<td>Input on meals and medicine taken</td>
<td>Web/mHealth Application</td>
<td>Initially and before every co-decision making/evaluation visit (2-4 per year)</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Baseline Data required for predictive models - will be collected in longer periods**

**Daily data by telemonitoring**

<table>
<thead>
<tr>
<th>Data</th>
<th>Action to Collect</th>
<th>Related System</th>
<th>Frequency of Collection</th>
<th>Burden on Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Activity Tracking</td>
<td>Device Integration</td>
<td>Activity Tracking Device</td>
<td>Continuous</td>
<td>Minimal</td>
</tr>
<tr>
<td>Nutritional and Calorie Intake</td>
<td>Guided Patient Input</td>
<td>Web/mHealth Application</td>
<td>Daily initially, optional later</td>
<td>Medium</td>
</tr>
<tr>
<td>Daily Glucose Measurements</td>
<td>Device Integration</td>
<td>GM Device</td>
<td>Optional</td>
<td>Medium</td>
</tr>
<tr>
<td>Medication Intake</td>
<td>Device Integration, Input from patient</td>
<td>Device or Web/mHealth Application</td>
<td>Optional</td>
<td>Medium</td>
</tr>
<tr>
<td>Other patient feedbacks (symptoms, events, emotions)</td>
<td>Guided Patient Input</td>
<td>Web/mHealth Application</td>
<td>Guided</td>
<td>Minimal</td>
</tr>
</tbody>
</table>

**Short-term periodic measurements**

<table>
<thead>
<tr>
<th>Data</th>
<th>Action to Collect</th>
<th>Related System</th>
<th>Frequency of Collection</th>
<th>Burden on Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vital Signs (Blood Pressure, Weight, etc)</td>
<td>Device Integration</td>
<td>Medical Device</td>
<td>When needed (2-4 per week)</td>
<td>Minimal</td>
</tr>
<tr>
<td>Other clinical/self measurements (Fingertip cholesterol, 24h urine for kidney risk factors)</td>
<td>Data Integration</td>
<td>EHR, Cloud Services</td>
<td>2-4 per year</td>
<td>Medium</td>
</tr>
</tbody>
</table>
WP4 - OBJECTIVES

- Set specifications of all the data needed for the overall system according to data model defined in design phase
- Develop and deploy the data integration platform based on the requirements of pilot sites for both Quantification and Evaluation campaigns
- Choice of On-body, Home and On-phone Sensors, Wearable devices
- Define and develop API for data extraction into E-Health platform
- Provide devices and support for pilot studies
- Implement data extraction from official health records (EHR)
- Implement data extraction from personal devices (Clouds, PHR)
- Implement functionalities in the different languages of the pilot studies
- Integrate POWER2DM Services and GUI components to eHealth systems (e.g. PatientCoach) in Pilot Sites
WP5 – PILOT STUDIES

- WP leader: SAS (Servicio Andaluz de Salud)

1) Quantification campaign (4 months; small scale to validate data requirements)
2) Evaluation campaign: RCT (18 months; 280 diabetes patients)

Evaluation Campaign: distribution of patients over pilot sites, disease groups and intervention groups
The aim of POWER2DM test campaigns will be twofold. In the first half of the project they will be performed so as to ground the model with experimental data and quantify and fine-tune the developed WP2 computational models. In the second half of the project, evaluation campaigns will involve execution in the three challenging pilot sites and will serve both model optimization and validation purposes (WP6).
### WP6 – EVALUATION AND VALIDATION

- **WP Leader:** LUMC

#### IMPROVED SELF-MANAGEMENT OF DIABETES

<table>
<thead>
<tr>
<th>IMPACT INDICATORS</th>
<th>METRICS / METHODS</th>
<th>IMPROVED PHYSICAL HEALTH</th>
<th>COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes knowledge</td>
<td>Summary of Diabetes Self-Care Activities</td>
<td>Physical activity</td>
<td>Individual and the family:</td>
</tr>
<tr>
<td>Diabetes related skills</td>
<td></td>
<td>Healthful eating</td>
<td>- Out of pocket expenses</td>
</tr>
<tr>
<td>Application of knowledge</td>
<td></td>
<td>Medication adherence</td>
<td>- Loss of income</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Problem solving &amp; Skills (glucose msrm., insulin injection, etc)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Sick day management</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Appropriate attendance for medical care</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pedometer, Carb intake per day</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pill count, Medication records</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusted food, medication, activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blood glucose testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contacts with healthcare provider</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatment Self-Regulation Questionnaire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diabetes Empowerment Scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-Efficacy of patients with Type 2 diabetes scale</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Well Being Questionnaire</td>
<td></td>
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<td></td>
<td></td>
<td>Disease Specific Quality of Life Questionnaire</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Appraisal of Diabetes Scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sensors to measure vital signs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Care records</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of trial and error therapeutic regimes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of days away from work</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality-adjusted life year</td>
<td></td>
</tr>
</tbody>
</table>

POWER2DM impact indicators and associated metrics and methods

01/03/2016
WP6 - OBJECTIVES

- The aim of WP6 is two-fold. First, it is aimed at evaluating the performance of the existing KADIS and MT2D-MARVEL prediction models and to assess to what extent POWER2DM applications can provide (additional) model inputs that are non-invasive, easy attainable and convenient for all patients. This work will be done in close cooperation with the Patient Organizations to be involved in the project under guidance of the IDF. Second, this work package is focused on the evaluation and validation, including the clinical and socio-economic and organizational impact of the final POWER2DM mHealth & prediction based personalised health system.
### WP7 – DISSEMINATION, EXPLOITATION, INNOVATION

- **WP leader:** TNO

<table>
<thead>
<tr>
<th>Results to Disseminate</th>
<th>To Whom</th>
<th>Why?</th>
<th>How?</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Idea and Approach</strong></td>
<td>Press, General Public, Scientific Communities, Regulatory Bodies</td>
<td>Awareness, Attention</td>
<td>Project Website, Opening Event, Leaflet &amp; Brochures, Press releases, Social media</td>
<td>Phase I M1-M3</td>
</tr>
<tr>
<td><strong>Requirements and Initial Designs</strong></td>
<td>Patients, Researchers, Care Providers, Expert networks, Regulatory Bodies, Health Insurers, mHealth SMEs</td>
<td>Get early feedback</td>
<td>Patient group workshops, Conferences, Open Review Questionnaires, Professional web forums</td>
<td>Phase I M1-M8</td>
</tr>
<tr>
<td><strong>Intermediate prototypes (Prediction, DSS)</strong></td>
<td>Scientific Community, Patients, Care Providers, Expert Networks, mHealth SMEs, Standardization bodies</td>
<td>Attracting, Open Innovation</td>
<td>Prototype demonstrations, Dem. videos, Publications, Fairs, hackathons, Patient group workshops</td>
<td>Phase II M9-M20</td>
</tr>
<tr>
<td><strong>Evaluation results after Quantification Campaign</strong></td>
<td>Scientific Community, Patients, Care Providers, Insurers, Expert Networks</td>
<td>Proving capabilities</td>
<td>Publications, Conferences</td>
<td>Phase II M15-M20</td>
</tr>
<tr>
<td><strong>Care protocol, intermediate pilot results and integrated system demonstrators</strong></td>
<td>Insurance companies, Regulatory bodies, Expert Networks, Investors, Patients</td>
<td>Attracting Customers, Build Relationships</td>
<td>Fairs, Exhibitions, Demonstrations, Publications, Patient group workshops, Conferences, Workshops, Videos from pilot sites</td>
<td>Phase III M21-M42</td>
</tr>
<tr>
<td><strong>Evaluation results, Social, Economic and Clinical Outcomes</strong></td>
<td>Scientific Community, Insurers, Regulatory bodies, Patients, Care Providers, Expert Networks, Investors</td>
<td>Prove the benefit, Attract the Customers</td>
<td>Publications, Press releases, Patient group workshops, Leaflet &amp; Brochures, Social media, Closing Event</td>
<td>Phase III M36-M42</td>
</tr>
</tbody>
</table>

**Summary of Dissemination Plan**

01/03/2016 POWER2DM Project
## WP7 – BUSINESS MODEL

### Key Partners
- Patient Empowerment experts (SRFG, SRDC)
- Predictive Modelling experts (IDK, TNO)
- Human Metabolism experts (SAS, IDK, LUMC)
- Medical Device manufacturer (iHealth)
- Cloud Service providers (PrimeData)
- Health Information System vendors (LUMC, iHealth, SRDC, SRFG)
- Innovation and Distribution Partner (TNO)
  - Healthcare Professional Organizations
  - Patient Organizations
  - Healthcare Institutions (IDK, SAS, LUMC)

### Key Activities
- Development of ICT components composing of POWER2DM SMSS
- Specification of innovative, preventive diabetes telecare model
- Validating scalability and pan-European applicability
- POWER2DM SMSS
- eCoaching Applications: MyVitals, Patient Coach
- Short/mid/long term predictive models
- Expertise in large-scale deployment in national/regional settings

### Value Propositions
- Improved quality of life and health status for diabetes patients
- Innovative and extended service/product range for industry customers
- Increased customer base and revenue for industry customers
- Region/nation-wide deployable diabetes care model
- Decrease in diabetes management costs for governments
- Strengthened evidence base for preventive diabetes telecare

### Customer Relationships
- Availability for technical support, customisation, extension and tuning of the products
- Shared care management and decision making
- Dedicated personal assistance for patients
- Consultancy for care model application
- Cloud services
- Existing Sales Networks
- Mobile Application stores
- Healthcare institutions
- Conferences and exhibitions
- Publication in scientific journals (open access)

### Customer Segments
- Telecare/EHR/PHR/TeleCoaching vendors
- Healthcare providers
- Medical device manufacturers
- Insurance companies
- Diabetes patients
- Regional/National bodies for health and social care
- Research communities
- Third-party markets

### Revenue Streams
- B2C: Direct sales to patients
- B2B: Consultancy for Open Source components
- B2B: Payment for cloud-based services
- B2B: Selling ICT component licences to vendors; charging for maintenance
- B2B: Payment for customisation, integration and deployment of the POWER2DM SMSS
- B2G: Consultancy services

### Cost Structure
- Research & Development & Innovation
- Exploitation and IPR Management
- Maintenance Costs for ICT Infrastructure
- Integration and Deployment of POWER2DM SMSS

---

*01/03/2016*
WP7 - OBJECTIVES

- WP7 will disseminate key information on the project, associated activities and outcomes to an international audience. Specific objectives are as follows:
  - Coordination of project dissemination and communication activities
  - Identification of business and market opportunities, and providing exploitation plans
  - Management of innovation and intellectual property rights
  - Liaison activities with the eHealth industry actors
WP8 – PROJECT MANAGEMENT

- WP leader: TNO

Management structure of POWER2DM

Patient Representatives Board (PR): The set-up of a Patient representatives (PR) board, co-chaired by LUMC and SAS will be achieved. The PR board will consist of 6 patients with diabetes and/or their families and carers, they will be recruited via local patient organisations/patient bodies. They will engage with the Executive board, meeting annually, and inform decision making. Patients will be trained and appraised regularly of the project progress, outside of any formal meetings, they will provide advice on patient experience and ethical issues that may arise.
WP8 - OBJECTIVES

- To ensure achievement of the objectives of the project through effective and efficient management, financial control and administrative work of the project. Any discrepancies will be swiftly reported to the Commission.

- To coordinate a well-functioning and effective research consortium that consists of scientists from different disciplines as well as business partners and patients/clients representatives.

- To ensure scientific excellence, innovation and efficient implementation as well as valorisation (business modelling).

- To network and collaborate with other related consortia, projects and networks in Europe.

- To provide evaluation reports to the Commission as required.
PROJECT PHASING

Piloting & Evaluation

R&D

2016
- M6
  - T5.1 Pilot Protocol Design
  - T5.4 Quantification Campaign

2017
- M18
  - T6.1 Evaluation Criteria
  - T6.2 Data management for Quantification Campaign

2018
- M30
  - T6.2 Data management for Pilot Study
  - T5.4 Pilot Operation

2019
- M42
  - T6.4 Evaluation

WP4 Data Integration Platform Prototype I
- T1.1 User Requirements & Use cases
  - T1.2 Technical Requirements
  - T1.3 Conceptual Design
  - T2.1, T2.2, T3.1 Predictive Models
  - Behavior Change Models
  - v1

WP2 Predictive Framework Prototype I
- WP3 Personalized DSS Prototype I
- T2.1, T2.2, T3.1 Models v2

WP4 Data Integration Platform Prototype II
- WP2 Predictive Framework Prototype II
- WP3 Personalized DSS Prototype II

WP2 Predictive Framework Prototype III
- WP3 Personalized DSS Prototype III

T1.4 Integrated Power2DM Release

T1.4 Final Power2DM Release

01/03/2016
POWER2DM Project
Thank you for your attention