

DIGIPAY 4 GROWTH

MANUAL

**Learn from our
experience and take
action to help your
local economy**



Acknowledgments

Our thanks to our pilot partners, who engage each day in the challenging and noble mission of supporting local businesses, building a stronger local economy and a more prosperous living for its inhabitants.

We are especially thankful to our colleagues from Bristol Pound, Bristol City Council, Sardex, the Regional Government of Sardinia, Ubiquat Technologies, Learning by Doing, and the Universitat Pompeu Fabra, whose work has not only helped communities in the UK, Italy and Spain, but has also served as an inspiration for many others to think that alternatives ways are possible. We believe your pioneer work is the base for bigger changes that will contribute to build a more inclusive economy.

We are also thankful to the dissemination partners in Poland (Vistula University) and Austria (Allmenda), who helped us spread the word. Finally, our thanks to the European Commission, for believing in the power of innovative ideas applied to monetary systems.



About STRO

The Social Trade Organisation is engaged in developing alternatives for the monetary system, as it is our belief that the current monetary system creates poverty and environmental problems. In the past twenty years we have been implementing projects in different parts of the world to show that new ways of working with money are possible.

STRO's objective is to move money as a major steering mechanism in society from causing environmental abuse and preventing many poor to optimise their capacities, towards becoming an instrument that serves a qualitative human development. Social Trade promotes the opportunity for communities to optimise the circulation of purchasing power in their community.

TABLE OF CONTENTS

GLOSARY	5
INTRODUCTION	7
What is DigiPay4Growth (DP4G).....	7
What will the reader find in the manual.....	7
For whom the manual is meant	8
SECTION 1 – WHY: UNDERSTANDING THE REASONS	9
The underlying causes of underperforming economies	9
What DigiPay4Growth can do.....	10
Benefits for different stakeholders.....	13
SECTION 2 – WHAT: DP4G CASES	17
Prospects Credit, Bristol, UK	17
Sardex, Sardinia, Italy.....	20
Gramas, Santa Coloma, Spain	23
Social Trade Circuit, The Netherlands.....	25
SECTION 3 – HOW: THE DP4G MODELS.....	28
INVOICE BACKED MODEL.....	28
TYPE 1: CREDIT FOR GOVERNMENT SUPPLIERS.....	28
TYPE 2: CREDIT FOR THE GOVERNMENT	32
CAPACITY BACKED MUTUAL CREDIT MODEL (SOCIAL TRADE CIRCUIT)	35
SUBSIDY BACKED MODEL.....	40
SECTION 4 – STEP BY STEP GUIDE	42
DESIGN	42
IMPLEMENT	46
MONITOR AND EVALUATE	47
SHARE.....	48
KEEP BUILDING.....	48
SECTION 5 – THE ROLE OF TECHNOLOGY	50
Importance of counting on a reliable technological system.....	50
Cyclos Software.....	50
SECTION 6 – THE POWER OF COMMUNICATION	53
Knowledge sharing.....	53
Marketing material	54
Web tools.....	57
Social media	60

Brokering:.....	60
Organizing events:	61
CONCLUSIONS.....	62
FURTHER READING AND RESOURCES	63
ANNEXES	64
DIAGRAM VERSIONS OF MODELS IN SECTION 3.....	65

GLOSSARY

- **B2B:** Business to Business. Refers to the transactions that exists between businesses, not including government or individuals for instance. Other variations include B2G (Business to Governments), G2E (Government to employee), B2E (Business to employee).
- **Broker:** Individual in charge of bringing members in the network, presenting the project to companies and addressing their concerns and questions.
- **Countercyclical credit:** Approach that seeks to facilitate credit when it is more needed, mostly during economic downturns. It means that it works against the cyclical tendencies in the economy.
- **Credit risk:** Refers to the risk that a borrower may not repay a loan and that the lender may lose the money of the credit.
- **Cyclos:** Digital Payment System to execute payments in a network of participating local businesses and enables users to make payments through Internet, cards, SMS and other mobile channels such as mobile apps. Cyclos is developed by STRO. <http://www.cyclos.org/>
- **Demand:** Economic principle that describes a consumer's desire, willingness and ability to pay a price for a specific good or service. The total demand for goods and services within a market is known as aggregate demand.
- **Digital currency:** It is an internet-based form of currency. Like traditional money, these currencies may be used to buy physical goods and services but may also be restricted to a defines network of users.
- **DP4G:** DigiPay4Growth. Project partially funded under the ICT Policy Support Programme (ICT PSP) of the European Commission (2014-2016) to apply and innovative Digital Payment System (Cyclos), to channel inflows of purchasing power from various sources towards SME's in the regional/local economy.
- **DPS:** Digital Payment System. It is a way of making transactions and paying for goods/services through an electronic medium, not having to use other means of payments like cash or checks.
- **Factoring:** Financial transaction in which a business sells its accounts receivable (i.e., invoices) to a third party (called a factor) at a discount. A business will sometimes factor its receivable assets to meet its present and immediate cash needs.
- **Government expenditures:** Includes all government consumption, investment, and transfer payments. In other terms, it is the acquisition by governments of goods and services for current use, to directly satisfy the individual or collective needs of the community.
- **Guarantee fund:** Fund where money is stored to be used in case a credit default takes place. It is built to help absorb possible losses of a transaction that involves risk.

- **ICT:** Information and Communication Technologies. Represents all components related to computer and digital technologies. ICT refers to technologies that provide access to information like Internet, wireless networks, and other communication mediums.
- **Leaking money:** Money leaving from the local community before it has properly facilitated local production and local sales.
- **Liquidity:** Measure of the extent to which a person or organization has cash to meet immediate and short-term obligations, or assets that can be quickly converted to do this.
- **Local multiplier:** Refers to additional economic benefit flowing and increasing in an area from money being spent in the local economy. For more information, you can check the book "Plugging the leaks" from the NEF Foundation. <http://www.pluggingtheleaks.org/>
- **Local Multiplier 3 (LM3):** LM3 was developed by the New Economics Foundation as a simple and understandable way of measuring local economic impact. It is designed to help people think about local money flows and how their organisation can practically improve its local economic impact, as well as influence the public sector to consider the impact of its procurement decisions. See <http://www.nef-consulting.co.uk/our-services/evaluation-impact-assessment/local-multiplier-3-lm3/>
- **Purchasing Power:** It refers to the money and credit available for spending and consumption of goods and services.
- **SME:** Small and Medium-sized enterprise. The main factors determining whether an enterprise is an SME are staff headcount and either turnover or balance sheet total. Detailed information can be found in *the SME Definition – user guide 2015*, published by the European Commission. <http://ec.europa.eu/DocsRoom/documents/15582/attachments/1/translations>
- **Spare capacity:** Situation in which actual production is less than what is achievable or optimal for a firm. This often means that the demand for the product is below what the business could potentially supply to the market.
- **Stakeholder:** A person, group, company or institution that has interest or concern in a project/organisation.
- **STRO:** Social Trade Organisation. Dutch organization that develops alternatives for the monetary system. STRO coordinated the DigiPay4Growth Project and it's the author of the present manual. <http://www.socialtrade.nl>
- **Supply chain:** The network created amongst different companies producing, handling and/or distributing a specific product.
- **T€S:** Term Euros. It refers to Euros that have been labelled to work under certain conditions; for instance, being within the local economy for a defined period. It is a kind of money that plays under different rules to help "root" money to the local economy.
- **Working capital:** Indicates whether a company has enough short term assets to cover its short-term debt. We could say it refers to the cash available for day-to-day operations of an organization.

INTRODUCTION

What is DigiPay4Growth (DP4G)

The DigiPay4Growth is a project supported by the European Commission with financing from 2014-2016, and still running on the personal initiative of the pilot projects. It is a new approach that boosts regional/local development and represses unemployment. The DigiPay approach has a specific focus on channelling inflows of purchasing power from various sources towards SME's in the regional/local economy. This leads to:

- More economic activity, more income for businesses and ultimately to more jobs in the locality/region.
- Stimulating local circulation of purchasing power (for a fixed amount of time or number of times), resulting in more sales for local SMEs;
- Increasing the local economic multiplier effect of government expenditures, and thus offers extra stimuli to local economic actors and increases tax income.

Digipay4Growth demonstrated the approach in 4 pilot projects in Catalonia (Spain), Bristol (UK), Sardinia (Italy) and the Netherlands in creating the above-mentioned spin-offs. At the end of the project, 7M of credit was channelled through the Cyclos system, while we count with the participation of 12.000 SMEs and 2000 consumers.

What the reader will find in the manual

Throughout the project, the DP4G partners have gained knowledge and experience that we want to share with you in this manual. Running innovative projects like these ones is not easy and requires time and persistence. It requires a well-thought project design, careful implementation and constant monitoring and evaluation.

We will start by pointing out some of the root causes that lead to underperforming economies and the solutions that we propose to tackle this problem. We will explain two innovations related to government expenditures and countercyclical credits.

You will also find an overview of the pilot projects in Bristol (UK), Sardinia (Italy), Santa Coloma (Spain) and The Netherlands. What were their drivers to propose an innovative economic model? Which strategy did they implement? What progress have they had? However, we want

to take you further. We want you to understand the models behind these projects and explained them in a systematic way. You will find detailed explanations in Section 3.

In section 4 we provide you with a short step-by-step guide on how to manage a project, including tips and comments from all the pilot partners, taken from and inspired by lessons learned from their own projects. Keep in mind that these are innovative projects that do not have a standard script of how it should work. Rather, our partners have learned from a trial and error process. Hence, their advices are valuable knowledge that comes not from theory, but from pure practice.

The last part of the manual is dedicated to explore the role of technology and communication strategies in these types of initiatives. You will know more about our award-winner Cyclos software and, of course, more tips on what aspects you should consider when presenting your project to stakeholders and the general public.

For whom the manual is meant

This manual is addressed to any person that has interest in knowing more about the DigiPay approach to better organize the local economy. Either you are curious and are just interested in knowing more about the topic or you already have a project in mind for your community, this manual could serve your purposes. Interested persons might include: policy makers on local and central government level and NGOs that are in line with local economic development models. At the community level we could think of groups of SMEs, network groups, or other “communities” with a common goal.

It is our aim that you, as a reader, understand better our proposals and acknowledge that managing monetary systems in a different way is not only suitable, but also possible with the current technological developments. It is also our aim that you succeed in your project and that you help us to spread the need and the benefits of a new way of addressing our economy, making it more human and regaining power at the local level. For this reason, we want to share our stories, best practices and lessons learned so that you can build upon our experience.

SECTION 1 – WHY: UNDERSTANDING THE REASONS

The underlying causes of underperforming economies

In an increasing globalized world, we have seen some regions thriving in a free market environment. However, this prosperity hasn't reached many other regions around the world. These regions are currently struggling to stay afloat while money keeps leaving rapidly from their economies.

There are many places that are facing high rates of unemployment, poverty, scarcity of products, emigration, etc., as labour and capital are not being efficiently used. We need to recognize that this is an avoidable problem and that the “left behind” regions have a great potential to provide a decent and good livelihood for millions of people. For this to happen, we should change our view on how money works.

Let's start by pointing out that one of the main causes for the stagnation of an economy is lack of demand for local production. Under these circumstances, the money that enters the region (via consumers, businesses and governments) leaves long before it has organized the local production. Usually this *leaking money* is not even noticed until a crisis strikes, as the long-term benefits of spending locally are not evident to most economic agents. Some economies have been submerged in poverty for a period long enough to believe this is a permanent crisis and might be difficult for them to realize that their situation can be improved by changing consumption patterns.



Another important reason for the stagnation of the economy is the difficult access to credit for SMEs, who are the backbone of most economies. As businesses in process of consolidation,

having available working capital is fundamental for their growth and sustainability. SMEs play a key role in the local economy as they are more likely to hire local workers, buy from local suppliers and address more adequately consumer's needs.

Local economies can also be affected by the low multiplier effect of government expenditures. Certainly, the fact that governments do inject money into the economy does not necessarily mean that the local community will be better off. Local organisations that receive subsidies from the government might use this money to pay their suppliers abroad. Hence, part or most of these investments can be drained out of the economy as soon as they reach the second recipient of a payment, not allowing governmental money to have a real impact at the local level.

DP4G was born from the need to fight the detrimental effects in the aftermath of the Eurozone crisis. The regions and cities participating in this project all experienced (to a ranging extent) the influence of regional imbalances in economic activity and growth within their own country or the large internal EU market. Specifically, DP4G aim to address the lack of credit of SMEs and the low multiplier effect of government expenditures.

It is our belief that money has a tremendous power to better organize the economy and with good management, it can be a motor for economic activities. When money plays by certain pre-determined rules, it can create demand, providing favourable conditions for local businesses to flourish and therefore, contributing to the general economic take-off.

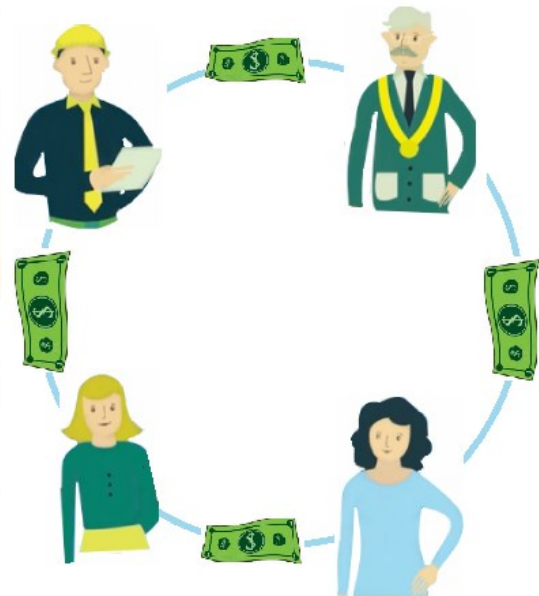
What DigiPay4Growth can do

Compare the economy to an engine and money as the oil that makes it possible for it to work. If the oil levels are decreasing because of a leak, the engine will have trouble to run and the car will not be able to move. What is needed is to stop the leaking and provide the engine with enough oil to function. The projects in DP4G look for that: to keep enough money in the local economy for it to work and to increase its *Local Multiplier*.

So, how to make this work?

The Local Multiplier Effect refers to additional economic benefit flowing and increasing in an area from money being spent in the local economy.

So, it's not just where you spend your money that matters. It is also important where the people you give it to, spend this money.



DP4G makes use of the Cyclos software as a Digital Payment System (DPS) to execute payments in a network of participating local businesses. Hereby, the availability of money and the way that it organizes growth in local economies are changed. When using Cyclos, money is “routed” locally, before it eventually flows out again.

In the figures below, it can be seen that DP4G uses Cyclos to “focus” money (or purchasing power) locally, before it eventually flows out again. Whilst being routed in the network of local businesses, economic activity and income are created. In fact, the multiplier of the monetary inflows is increased. In Cyclos, a specific amount of elapsed time (for instance 3 months) can be set, before purchasing power can flow-out again.



Situation now: Money flows into the local economy and almost immediately flows out without facilitating any local economy



Situation with Cyclos: Money circulates in the local or regional economy more often, and thereby creating more income for the local SMEs

The target group comprises a large variety of actors: public administrations, businesses and consumers who need to activate the (re)utilization of productive capacities in local economies hit by the financial crisis.

Members use the digital currency to trade with each other and therefore this purchasing power stay longer in the locality, increasing the local economic multiplier effect of expenditures and credits.

Check out this video that will help to clarify our idea

<https://www.youtube.com/watch?v=pWAU33l5FL0>

For whom is DP4G?

Benefits for different stakeholders

FOR SME'S AND LOCAL BUSINESSES

- Cheap credit for start-ups and SMEs
- Encourage cooperation between companies in need of clients and companies in need of credit
- Generate new clients for suppliers in the supply chain and subsequently increase their sales
- Marketplace for surplus spare capacities



FOR LOCAL GOVERNMENTS

- Strengthen local economy in order to provide additional opportunities for people to develop their entrepreneurial talents.
 - Immediate payment of invoices of government suppliers in a network that supports cooperation between these suppliers.
- Boost the SMEs in local economy to create growth in the sector.
 - Increase the multiplier effect of expenditures
 - Increase local (youth)

FOR COMMUNITIES

- Trade that supports the values of a community.
- More local jobs
- Helps communities to play a fundamental role in the development of a healthy and sustainable local economy.
- More social capital and cohesion



FOR LOCAL CONSUMERS

- Support your local economy/community with your purchasing power.
- Ensure that your favorite local shops remains open.
- Has different buying options and not just one of a big supermarket chain
- Have a closer relationship with the producers
- Be a conscious consumer

Governments of regions in crisis that are in need of innovative tools to stimulate local economies. Digipay4Growth offers a way to enhance the overall impact of governmental expenditures. By channelling part of the expenditures through a Digital Payment System, local governments can encourage (welfare) recipients to spend the grants within the local economy.

SMEs suffering lack of demand, shortage of cash- flow and credit. Through implementation of DP4G, purchasing power will circulate longer and more often in local economies. More loans will be created for local SMEs, whilst simultaneously increasing the local availability of money.

Local consumers and residents are given additional incentives to support local producers, to think through the consequences/ advantages of spending locally, and hence, to be able to identify how their purchasing decisions matter.

TWO INNOVATIONS

Depending on the specific local context, stakeholders and their intended goals, the Digipay4Growth approach makes a distinction between 2 different categories for monetary inflows, namely:

- **Municipal Innovation** where the flows of government expenditures are conditioned to increase the regional multiplier effect.
- **Credit Innovation - Countercyclical Credit** where counter cyclical credit for SMEs is provided. This is based on a redefinition of the relationship between economic actors in a supply chain.



Municipal innovation - Government expenditures

Many local governments do not educate local businesses and consumers about the advantages of spending locally. This way, high levels of public spending are leaking away from the local economy. As money is not available and not circulating long enough in local economies, the multiplier effect of existing expenditures (consumer and governmental) is low, causing less money to be retained in the municipality and region, less turnover - destruction of SMEs- and consequently less tax collection by the local government.

Governments can channel expenditures, welfare funds or social and cultural subsidies through Cyclos, conditioning the money to stay within the local economy and circulating amongst local businesses for a predetermined period of time. In this way, the government has a positive direct effect on the local multiplier of struggling regional and local economies, by directing money towards them and ensuring that it stays within the locality longer or moves quicker whilst generating economic activities. This has been tested in Santa Coloma, near Barcelona, see section 2.



Credit innovation – Countercyclical Credit

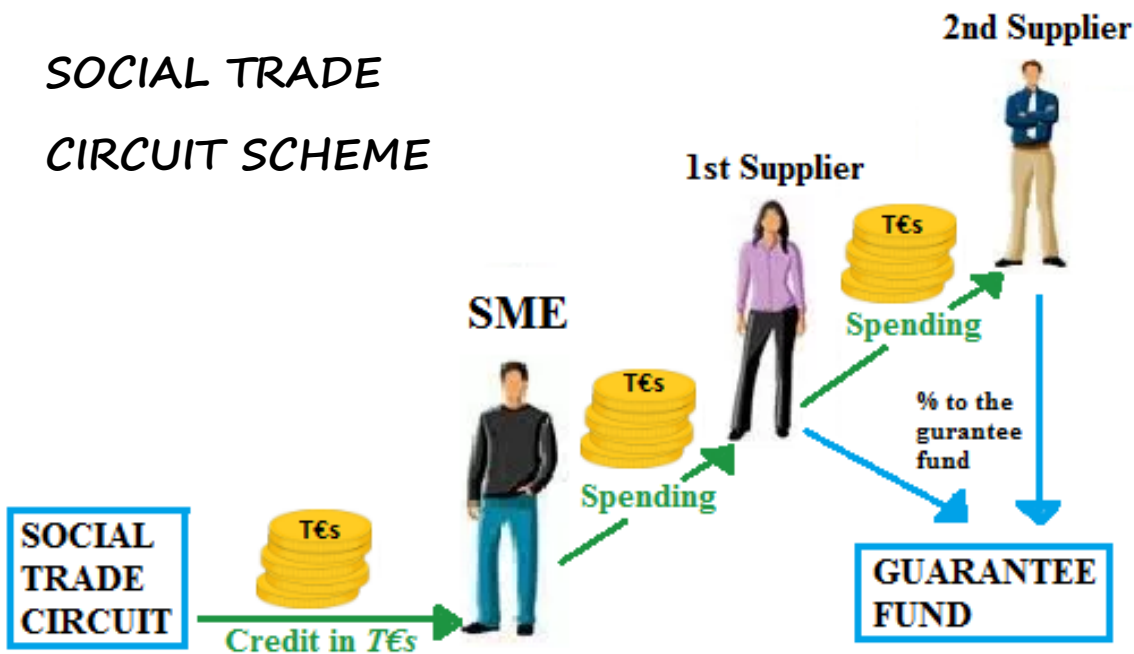
The credit innovation is a new solution that supplies counter cyclical credit for SMEs. The barriers in the current financial system often do not allow credit for SMEs, or the costs of credit expenses through interest are so high that it threatens the sustainability of many of them. Any lack of credit reinforces the downward trend of the economic cycle as the need for credit during a recession increases, but it is also more difficult to obtain. Even more: the need for the purchasing power that the credit would introduce in the market is stronger than ever (the creation of demand). It can also be said then that the economic crisis has hit SMEs in two ways: obtaining credit is difficult and more expensive, and clientele has grown scarce.

In the DigiPay4Growth Credit approach, we want to facilitate access to credit and contribute to the creation of demand for SMEs. To facilitate credit, guarantees are collected in the specific supply chain where the credit is going to be spent. In other words, (a part of) the costs of the credit are paid by the (group of) supplier(s) of the debtor that stand to gain from the access to the new credit. This starts with the direct supplier who would gain marginal sales if this credit is spent with him, but also includes other actors in the economy where the additional demand introduced by this credit leads to additional purchases. Together they finance a guarantee facility to deliver access to credit that would otherwise not have been possible.

In essence, Social Trade Credit is derived from a credit flow analysis that maps the 'downstream' financial stakeholders in the supply of credit (the places where the credit will be spent down the chain). These stakeholders are asked to make their contribution to a guarantee fund. The first supplier will generally contribute the highest percentage (called a first suppliers fee). The rest of the supply chain will contribute to the system depending on their position in the supply chain. Note that every project or network can make their own choice related to coverage of the system and how these contributions are called.

Once a network of mutual spending exists, the money behaves in a circular way. It starts as mutual credit, circulates within the network and, at some defined moment; the credit has been compensated (=repaid) in the local network. With mutual credit there is no need for interest. But there is a need of someone in the network capable to provide the requested product, a supplier to whom this additional sale is interesting. This supplier finances the insurance of the credit risk out of his marginal profits.

SOCIAL TRADE CIRCUIT SCHEME



Note: The money circulating in Cyclos will be referred as Term Euros (T€s) in this manual, although each system has their own denomination for their local money. For example, in the showcases of Santa Coloma, the T€s are called “Gramas” and in the Dutch Circuit in Utrecht the T€s are called “Utrechtse Euro”.

How do term Euro's (T€s) work

Members of the Circuit pay each other with a virtual currency, Term Euros (T€s). T€s can be created in the system through, for instance, giving a loan to a SME member in the network. T€s are “tagged” with the specific date on which this debt has to be repaid. The T€s circulating within the network are basically claims on euros cashable at a specific moment in the future. That moment is related to the moment the loan should be repaid.

Cyclos software keeps track on the period the T€s on an account have to remain as T€s, before euros will be available. Each time a company earns T€s, Cyclos calculates the new period before the company can cash the T€s on its account. This new value reflects the weighted average terms of the mix of T€s.



SECTION 2 – WHAT: DP4G CASES

The DigiPay approach is a basic method that can be adapted according to the needs, specific context environment and goals of the stakeholders in a given project. With the support of the European Commission, it has been tested in four pilots across Europe:

- Bristol (UK)
- Sardinia (Italy)
- Catalonia (Spain)
- The Netherlands



The four pilots within Digipay4Growth (www.digipay4Growth.eu) all implement the methodology in a different way. This section will give you more details about these case studies, specifying their context, the problem that they want to address with the DP4G, the chosen strategy and some results. Remember that Cyclos software provides a tool for project stakeholders to exercise control or influence over monetary flows within their project environment, so that it works more for the target groups within the project context. Get some inspiration and ideas from these cases, so you can think of a project for your own community!

Prospects Credit. Bristol, UK.

Let's start our journey discovering more about what inventive people are doing in Bristol, UK.

Bristol is a city and county in South West England with a population of 449,300 inhabitants. It is one of the UK's most popular tourist destinations, being selected in 2009 as one of the world's top ten cities by international travel publishers Dorling Kindersley. The Sunday Times named it as the best city in Britain in which to live in 2014 and 2017.



Bristol is also known for its local currency, the Bristol Pound (BP). It is the UK's first city where the local currency can be used to pay local taxes, as well as services like gas, electricity and public transport. Of course, BP can also be spent in the wide network of companies from different sectors that accept it. See <http://bristolpound.org>.



Despite this thriving environment, the creators of the Bristol Pound identified that there are still SMEs, in the wider Bristol region, that are struggling to obtain the extra finance they need to develop their business and to make future sales. So, to strengthen the Bristol Pound's impact on the regional economy and to make the Bristol Pound more sustainable, the Bristol Pound team joined the Digipay4Growth consortium.

The team started by conducting research in the region that could give them a better perspective of the situation they were dealing with. They found out that there are other businesses in the region with the capacity to make extra sales with low marginal cost and who are actually looking for new customers. Therefore, on one hand there are SMEs attempting to further develop their businesses and in need of credit to do so and on the other hand, companies wanting to get more customers and with spare capacity that can make it possible for them to offer credit.



Under this scenario and aiming to tackle the lack of credit, Bristol Pound created the “Bristol Prospects”; a scheme to help link SMEs that need the provision of easily accessible and low-cost credit to those companies that have excess capacity and want to make new sales. These two groups of businesses will be brought together in the Bristol Prospects network, under a controlled system, and will offer each other ‘mutual credit’ according to the Digipay countercyclical credit approach.

This is an extension of the normal companies offering each other credit major innovations of the scheme is alternatives, the member taking out fee or interest to pay. The logic for this most to gain, and can therefore afford and therefore they are the party who who also get to stablish new business



commercial practice of to facilitate sales. One of the that, unlike traditional credit the loan has no arrangement is that the party who has the to pay the fees, is the seller, pays most of the charges but relations.

The advantage is that the inherent risk in this practice is ‘mutualized’ between all the members of the network. In addition, there is a ‘currency’ called *Prospects* that enables members to trade with each other. This currency matures and reverts to sterling after a pre-arranged number of 90 days.

To make things easier for users, the Prospects Credit scheme was merged with the already existing Bristol Pound network to improve liquidity of the system through the existing users of the DPs. In this way both, individuals and organizations, can continue to use their Bristol Pound accounts in a very similar way. Indeed, greater liquidity has been achieved by allowing all existing SMEs using Bristol Pounds easier access to credit through operation of single DPS. The parity of value will remain at or very close to 1:1, backed by a Stability Fund.

The BP team also found that lending limits to SMEs will likely exceed the regulatory maximum for the Bristol Credit Union (financial partner in the Bristol Pound). Therefore, it will be necessary to register the organization as a Small E-Money Institution (SEMI) when the system grows and integrate other similar systems in the UK.

Undoubtedly, one of the key partners of this project is the Bristol City Council. They acknowledged the potential of the Bristol Pound and realized the idea was having significant impact in the local economy. The Bristol Pound finished 2016 with major increases in SME revenue through de Cyclos DPS (Digital Payment System). The last six months of 2016 saw £503k in SME revenue giving total of £1.7m revenue over the year and £3.2m over the years of the D4G project.



Bristol City Council commitment reached to the point that they adapted their internal systems and processes in order to accommodate a number of transaction in Bristol Pounds, which means that nowadays, Bristol citizens and the City Council itself can use their BP to pay council tax; business rates; procured contract payments; market trader license fees; and even pay staff.

Sardex. Sardinia, Italy.

In the south of Europe, we can also find inspiring projects that are rethinking economics. This is the case of Sardex, in Sardinia.

Sardinia is the second largest island in the Mediterranean Sea and an autonomous region of Italy. It has a total population of 1,656,003 inhabitants. The region's official name is Regione Autonoma della Sardegna (Autonomous Region of Sardinia). It is located in the Western Mediterranean and its capital and largest city is Cagliari.



Sardinia is a region in transition, with heavy industries on the way out after the 2009 financial crisis, which severely affected the region's economy. Traditional financial instruments were lacking and banks "closed the umbrella when it started to rain". SMEs all over Sardinia were in

need of liquidity and credit. But while some people saw darkness, others saw opportunity, like the creators of Sardex.



The problem was clear: the island was facing high rates of unemployment and low opportunities for local businesses to thrive. The Sardex team came up with the idea to strengthen the Sardinian economy

and to reconnect people by enabling the creation of interest-free local liquidity, based on the production capacity of local businesses. It is a commercial clearing system organizing SMEs and service providers. SMEs in the Sardex network are able to earn a significant amount of additional income and, on average, each SME is able to establish 18 new business contacts/trade relations in a year. See <http://www.sardex.net/>.

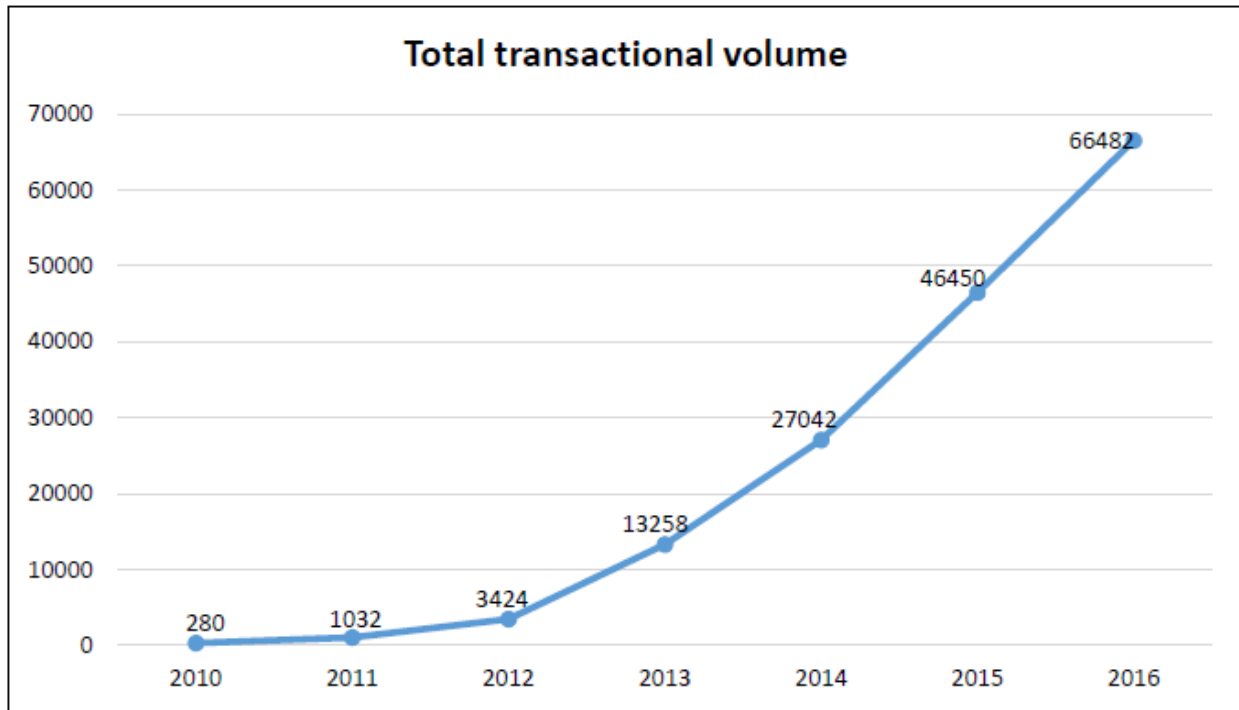
Sardex works with a local currency “SRD” that has a conversion relation of 1 to 1 with the euro. However, it is a non-convertible unit. The backing of Sardex is not in fiat money but it is constituted by the good and services of the companies involved in the network. The use of the local currency SRD implies zero delay (instant payments), zero interest and zero fees on B2B transactions. It can be earned through trade.



Results speak for themselves. In the 3 years of the DigiPay project, Sardex has contributed € 139 974 000 of additional turnover in Sardinia and there are estimations pointing at the creation of 116 jobs in total in 2016 alone. The overall velocity of circulation was around 4. During the same period the Euro was circulating on average 1 time a year. Sardex velocity resulted in a very strong improvement in market activity and eases the repayment rates. Sardex default rate is about 10%, while the official average default rate on credits in Sardinia is around 30%.

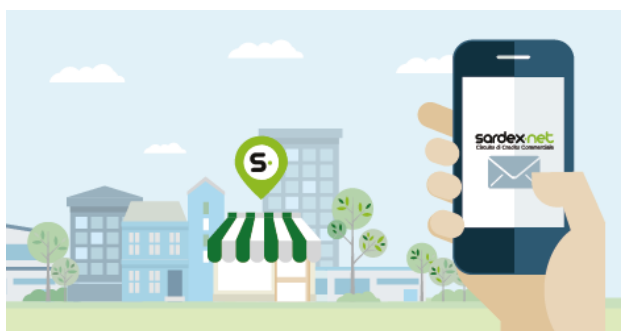
In 2016, Sardex added more than 7 mil credit to SMEs in Sardinia, 66 mil additional transaction volume (additional economic activity) for 3000 SMEs and roughly 1500 employees. The Sardinian example has succeeded in raising the interest of other regions (Emilia Romagna, Piemonte, Lombardia, Marche, Veneto are some cases) in Italy that are now trying to reproduce the example.

Growth in the transactional volume in Sardex over the years



The Regional Authority of Sardinia (RAS) also showed interest on channelling their public expenditures through the DPS in the future. During the DP4G project, it was possible to define and structure the General Complementary Circuit Model, that has a general value and adaptability for every Public Administration willing to operate in complementary digital circuit.

Seeing the huge success that this project had, the Sardex team took a step forward proposing to address social subsidies through the DPS. Together with a private partner - a local banking foundation, Fondazione di Sardegna – they tested this innovation on a micro scale in the city of Sassari. The DigiPay technology to pay social subsidies of subsidiaries was used in this city-based trial. The Cloud, the mobile App together with National Health Card were used and validated. The SocialPay platform enabled over 1000 transactions in less than 100 days of circulation with only 8 merchants and 60 beneficiaries. €60.000 worth of subsidies was channeled and over 99,5 % was spent through the system. Each merchant has had an average of 125 extra transactions and the average transaction amount has been €61,24 if we consider Citizen to Business transactions.



Sardex has shown that Cyclos can be used to fight unemployment and create additional turnover for participants.

Gramas. Santa Coloma, Spain.

Moving to the west of Europe, we find a pioneer project in Spain, more specifically in the city of Santa Coloma de Gramenet, informally known as Santa Coloma. Santa Coloma is a small city close to Barcelona with a high density commerce and population (118,738 inhabitants).

Being so close to one of the major cities of the country might be seen as an advantage. However, it also brings problems to the local economy. With the biggest shopping mall of Barcelona 15 minute away walking from the centre of Santa Coloma, local businesses face the fierce competition of not only the shopping centre, but also the commerce in the city centre of Barcelona and its surrounding area. According to a local multiplier study done by DigiPay partner Learning by Doing, only 30% of the public expenditures allocated to subsidize local businesses in Santa Coloma actually stays in the local economy, and 70% is spent outside the city, mainly in Barcelona, draining out the money that should be invested in organizing the economy.



of



Santa Coloma's mayor Nuria Parlon, is trying to find solutions to strengthen the economy after the debt crisis and has committed the City Council to help local businesses get more business and to increase local employment, in particular merchants that face increasing competition from close-by shopping malls in neighbouring cities. As part of the solution, the City Council chose to implement a Digital Payment System using a local currency (*Gramas*) as a tool for conducting public policy. See <http://www.grama.cat/>

Six local partner organizations participate in the project: Ubiquat (coordination, IT design and support), Learning by Doing (M&E and public administration advice), University of Pompeu Fabra (legal advice) and the local councils of Santa Coloma de Gramenet and Berguedà.

With the idea in their hands, the team began to work. It was a challenging mission, as it required a lot of legal work in order to get the green light from the local and central authorities. Legal investigation and check issues such as procedures for money laundering, identity checks and data protection had to be extensively elaborated. The good news is that the team accomplished this mission and at the present time, Gramas are already circulating.

The strategy goes like this: civil society entities receiving subsidies accept to receive a certain percentage of it in Gramas, from 30% to 100% depending on their capacity to spend locally (a previous study was made to calculate these percentages to not affect the treasury of the beneficiaries). Beneficiaries can voluntarily request an additional percentage of the subsidy in Gramas, encouraged by the City Council with a 5% bonus. During the first year of the pilot (2017), the City Council expects to channel a volume of Gramas between 150.000€ and 300.000€.

Gramas are means of exchange digitally conditioned by a circulation period, which is 45 days. It means that the *Gramas* have to be in circulation, generating turnover and employment in the local economy for at least 45 days. Past that maturity, they can be exchanged for Euros at no cost. The system has a guaranteed 1:1 cash-out for Euros. However, if you want to cash-out Gramas before the maturity period, they can be exchanged at a 5% cost.

The launch is incremental, starting with public expenditures, in particular channelling part of subsidies to sports, cultural and commerce entities through this local payment system. In next phases, and in order to increase the acceptance of the currency, the City Council plans to allow payment of local taxes and public services in Gramas, since they are fully backed by Euros.

It also aims to create a Euro fund aiming to grant interest-free micro-credits in Gramas for small local businesses. As soon as the network of affiliated businesses reaches a critical mass of 1.000 members, and depending on political decisions, the City Council will open participation to ordinary consumers willing to exchange Euros for Gramas in exchange to access to special offers, discounts and promotions from local businesses willing to create consumer loyalty. This will be coupled with a digital marketing campaign allowing the network of small local businesses to face the growing competition of large marketing campaigns from large chains and shopping malls.

As we can see so far, this ambitious project would involve Government2 Business, Government2Employee, Business2Business, Business2Employee, Employee2Business, Employee2Government and Business2Government network. Santa Coloma case has been an inspiration for other cities like Bergueda, that has finished preparatory work to also launch a system in the future; and Barcelona, that based on the example of the Gramas and supported

by the hard-legal work done in Santa Coloma, has also chosen to introduce a digital currency to favour small local businesses. Thanks to the Santa Coloma team, that paved the way for others, we will expect to see more successful projects in Spain that contribute to strengthen of their local economies.



Social Trade Circuit. The Netherlands

Finally, our journey to discover bright and bold initiatives, takes us to the Netherlands, home country of the Social Trade Organization (STRO).

This densely populated country located in Western Europe is known for their innovative spirit, which inspires the team of STRO to create the Circuit Nederland. STRO identified that the sustainability of many SMEs was at risk because of the lack of credit on the one hand and the lack of demand to support entrepreneurs on the other hand.

Besides, with recently tightened regulations on bank capital, SMEs with a credit need are unlikely to find a bank willing to extend a credit line for less than 100.000 euro. Credit lines like these, much bigger than many SMEs need, also come with costs higher than many SMEs can bear.

To tackle these problems, the Circuit Nederland brings businesses together in a network that facilitates trade and trust among the members, who provide each other mutual credit. Many SMEs are therefore helped a lot by the option in the Social Trade Circuit to get credit at no interest. See <https://www.circuitnederland.nl/>



This pilot experimented with a national approach where there is one national Social Trade Circuit which is the umbrella structure for many local chapters, also called communities,

who have their own trade group with their own community members and community goals. All communities trade with members from their own community. Yet, it is also possible for members of different communities to trade with each other, paying an "export-tax".

Currently, there are eight communities who are looking for alternatives ways to help their societies to thrive: Groningen, Friesland, Alkmaar, Zwolle, Utrecht, Wageningen e.o., Breda, Broodhandel and a nation-wide community named United Economy. The advantage of working with communities is that it becomes possible to scale-up the number of members through communities. The Circuit is monitored by STRO, from Utrecht.



The scheme is different from other credit options as there are no interest on the loan, but it's based on cooperative risk insurance. The idea is to build a network of local businesses where a labelled money constitutes the mean to make transactions between the members, increasing the circulation of money and therefore, the chances of a more regular income for the participants. It will also address credit scarcity through a countercyclical credit approach, in which the credit will be insured not by a bank, but by the supply chain. (See Section 1, Credit innovation/Countercyclical Credit).

This new financial scheme is expected to bring more clients to the network and facilitate access to new credit alternatives. The extra trade taking place in this way increases all members' sales volume and helps them smooth out cash-flow problems. This, in turn, makes it easier for them to hire new people and to pay back any outstanding debts they have. The legal work is done, the networks are being built and even in



some communities, like Utrecht, the local currency – Utrechtse Euros – is already being accepted by an increasing number of businesses.



SECTION 3 – HOW: THE DP4G MODELS

The cases that are presented in the previous section are based on various models, which are related to the different ways in which the T€'s or the medium of exchange originates and come into circulation within Circuit. The origin of T€ is dependent on the project goals and project stakeholders. In this section, we are going to elaborate more on the models so that you can understand the principles behind the projects. These models can be grouped in the two innovations we have seen in section 1 and will be described below:

- **Municipal Innovation** - where the flows of government expenditures are conditioned to increase the regional multiplier effect.

- Invoice backed model

- Subsidy backed model

- **Credit Innovation - Countercyclical Credit** where counter cyclical credit for SMEs is provided. This is based on a redefinition of the relationship between economic actors in a supply chain.

- Capacity backed mutual credit model

Let's see them in more detail.

INVOICE BACKED MODEL

TYPE 1: CREDIT FOR GOVERNMENT SUPPLIERS

Introduction

An important priority of any government's policy is to create a strong local economy. This can be done by strengthening local companies, helping them to be more profitable. One of the biggest challenges that SMEs face is the lack of liquidity. Even if they perform well and make good sales, many times they lack the working capital to be sustainable, as it is "frozen" on accounts receivables.

This model is meant to be a tool for local and regional authorities to improve the liquidity of their suppliers. Indeed, most suppliers usually appreciate that they can be paid in fewer days so that they can make use of this money, to pay their staff and buy inputs/machinery for instance. We thought of a way to provide this liquidity.

The idea is that the invoice issued by the government could become a mean of exchange within the circuit and members can continue trading without having to wait until the date of payment of the invoice. In other words, it provides trusted suppliers that have an invoice to claim, with a credit with the same value as their invoice. This way, what is backing the credit is the invoice issued to the government. They can use this purchasing power with other companies within the network, adding liquidity to the circuit. We could say that the process is similar to factoring.¹ Moreover, this increased trade capital will circulate within the community for a fixed amount of time which will contribute to strength the local economy.

There are two versions of this model: Pre-financing and Credit to the government. Both versions look at making liquid an asset that is not yet liquid (an invoice to be claimed in the future). However, the ways the T€s are emitted are different. In the Pre-financing version, the T€s are emitted by the Circuit directly to the supplier while in the second version, the T€s are issued to the government as a credit so that they can use them to pay invoices to the suppliers that are members of the circuit. Let's have a closer look at both approaches.

How does it work?

***Convertibility date:** Refers to the date when T€s can be exchanged for Euros. Each one of the T€s circulating in the network is tagged with a specific date that corresponds to the number of days they need to be circulating in the local economy. T€s can be converted when they are tagged with time zero T€=0.

***First supplier fee:** Fee to be paid by the supplier where the credit is first spent. This fee is a percentage of the total amount of the transaction and it is determined by the risk evaluator according with the risk profile of the credit applicant.

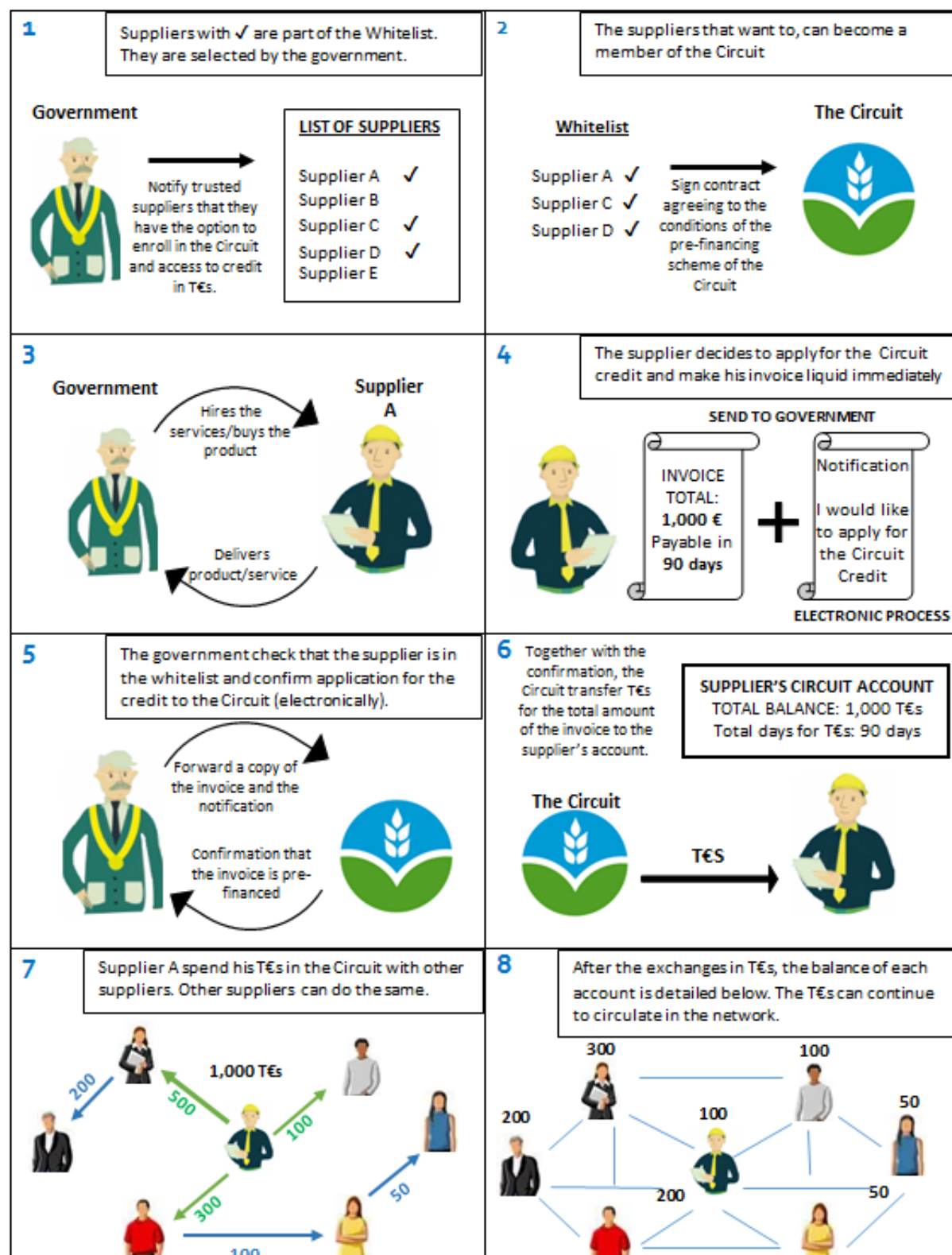
Step by step Pre-financing Approach

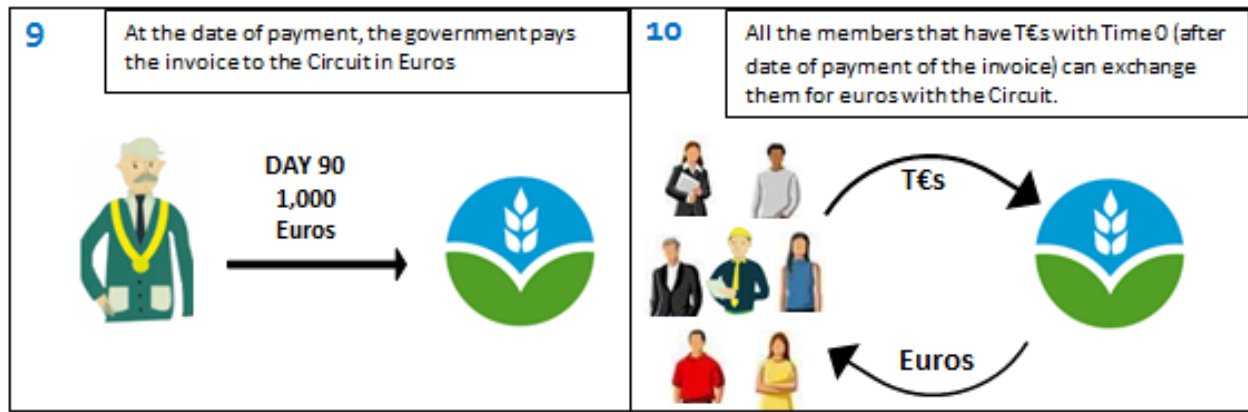
1. Governments make a white-list of their trusted suppliers and let them know that they have the option to enrol in the Circuit. If the suppliers choose to join, they could have access to credit in T€s for the same amount of the invoice they issue to the government for their product/services.
2. Suppliers interested to join the network, have to sign up to the Circuit. Once they are members of the Circuit, they can apply for a credit based and equal to the invoice they have delivered to the government.
3. The government request a product/service from the supplier. The supplier delivers a good or service to the government.

¹ In finance factoring, the factor (called the financing factor) advances funds to a producer or a manufacturing firm, on the security of produce or goods that will be produced or manufactured utilizing those funds.

4. The supplier notifies the government that he wants to apply for the Circuit credit and sends the invoice with the notification stating that he wants to receive the credit in T€s.
5. The government sends a copy of the supplier's invoice and the notification to the Circuit administration.
6. The invoice is pre-financed and the Circuit enters T€s in the account of the supplier.
Ex: When a local supplier has delivered a good or service to the local government with a value of let's say 1,000 euros, he can convert his invoice immediately into a credit for 1,000 T€s.
7. The supplier now is free to spend as much of the balance he has in T€s on his account with all other companies participating in the Circuit that accepts T€s.
8. These T€s have a term that is defined by the date of payment of the invoice. They can continue to circulate in the network with transactions among the members.
9. At Time 0 (the date of payment of the invoice) the government pays the invoice to the Circuit with euros.
10. At convertibility date, those in the Circuit who have T€s with Time 0, can exchange them for Euros with the Circuit; could either be the supplier who has the credit and did not spend it all in the network and/or the companies where he has spent his T€s.

VISUAL GUIDE STEP BY STEP





Challenges

It is worth noting that when the network is starting up, there are some challenges as there is limited spending opportunities for the participants of the network, which means they cannot use these invoices with many businesses because, at this early stage, it stills need to be accepted by the large majority. The more companies join, the smaller this obstacle will become. Hence, the importance of building a diverse and big enough network of companies that accept T€s.

Another risk, although minimal, is that a supplier files an unjustified invoice, and goes bankrupt precisely between the moment of filing and the moment when the invoice is judged valid by the government. In this unlikely scenario, each case should be examined independently by the part that will define together how the credit should be repaid.

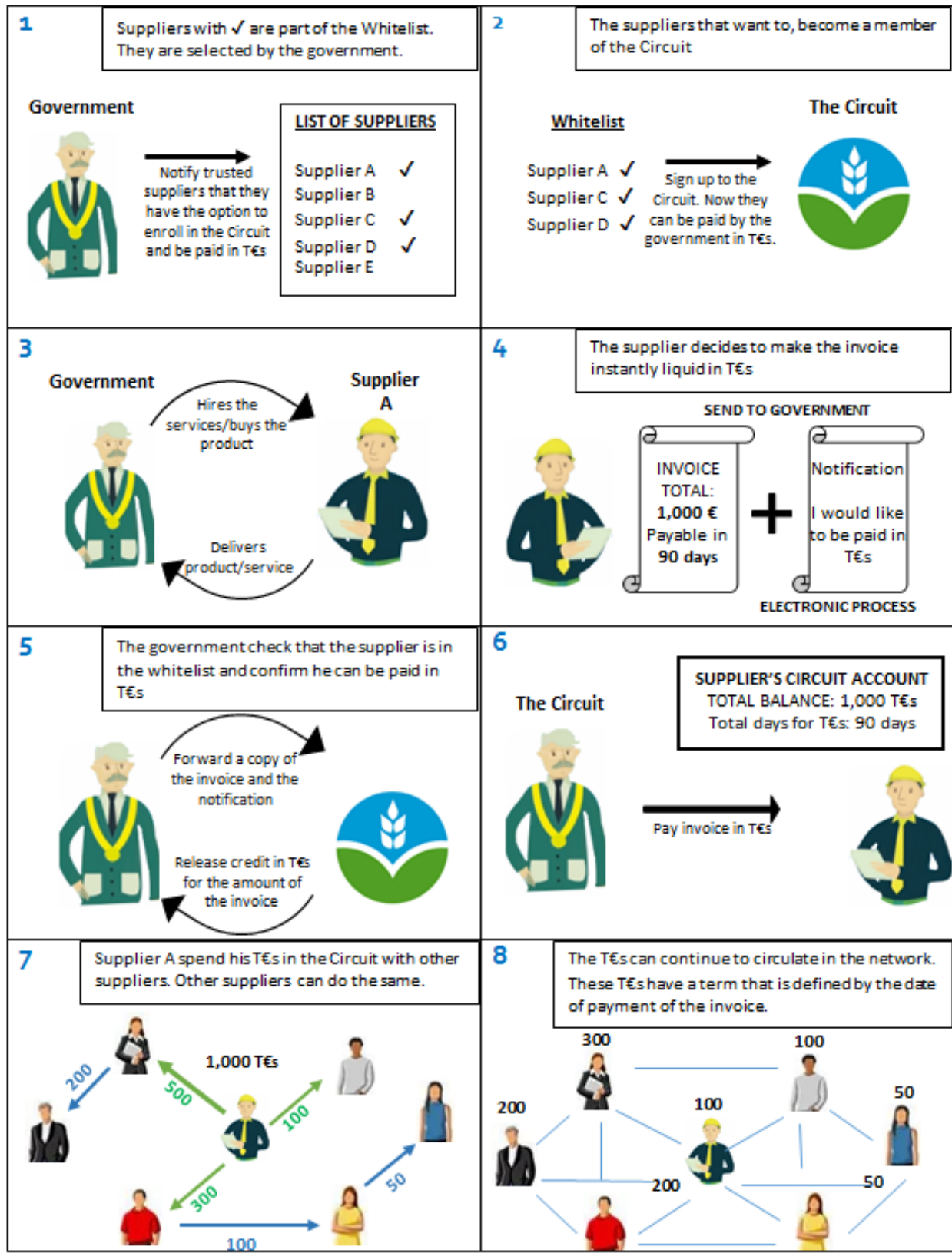
TYPE 2: CREDIT FOR THE GOVERNMENT

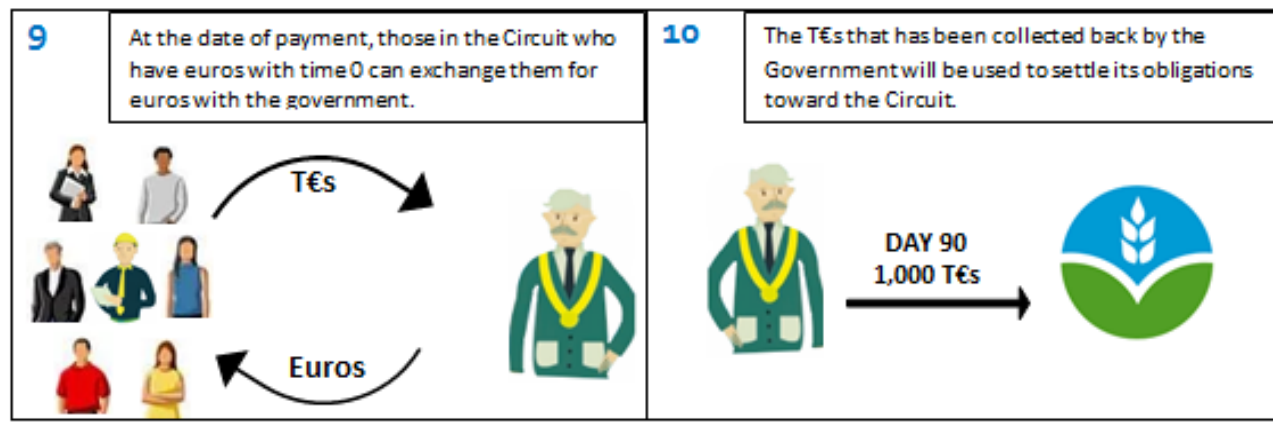
There is a second version of the invoice backed model. As the previous one, this version look at making liquid an asset that is not yet liquid (an invoice to be claimed in the future), which we call T€s. However, the way the T€s are emitted are different. While in the previous version the one receiving the T€s credit was the supplier, in this version the one receiving the credit if directly the government, from which they can pay the invoices to suppliers within the circuit.

The overall increase of instant liquidity of both models 1a & 1b will benefit local SMEs in the local economy. SMEs are paid for their goods and services delivered instantly and increasing trade capital. Moreover, this increased trade capital will circulate within the community for a fixed amount of time.

❖ Step by step Credit to the government Approach

1. Governments make a white-list of their trusted suppliers and let these suppliers know that they have the option to enrol in the Circuit. If they choose to join, they could have access to credit in T€s for the same amount of the invoice.
2. Suppliers interested to join the project, have to sign up to the Circuit. Once they are members of the Circuit, they can be paid in T€s if they want to.
3. The government request a product/service from the supplier. The supplier delivers a good or service to the government.
4. The supplier notifies the government that he wants to be paid in T€s to make the invoice instantly liquid.
5. The Government forward a copy of the invoice and the notification to the Circuit and receives credit in T€s to instantly prepay the supplier.
6. The government enters T€s in the account of the supplier.
Ex: When a local supplier has delivered a good or service to the local government with a value of let's say 1,000 euros, he can convert his invoice immediately into 1,000 T€s.
7. The supplier now is free to spend as much of the balance he has in T€s on his account with all other companies participating in the Circuit that accepts T€s.
8. These T€s have a term that is defined by the date of payment of the invoice. They are "tagged" with a counter that counts down the days until the date the invoice has to be paid by the government. After this period, these T€s can be exchanged for euros.
9. At Time 0 (the date of payment of the invoice), those in the Circuit who have T€s with Time 0, can exchange them for Euros with the government.
10. The T€s that the Government has collected again will serve to settle its obligations towards the Circuit.





CAPACITY BACKED MUTUAL CREDIT MODEL (SOCIAL TRADE CIRCUIT)

Introduction

The Social Trade Circuit is based on a digital payment system that stimulates the development of a region or a city economic potentials. It proposes a network in which participating local businesses buy and sell goods and services among them. As mentioned in this manual, purchasing power that is already available in the community is used more often, creating more income and additional economic activity is created with the access to credit.

The present model facilitates production, trade and consumption when capacities are underused. When a business does not have purchasing power or access to credit, the entire supply chain underperforms due to lack of effective demand. The most direct blow is to the supplier that does not sell because his potential client does not have access to credit.

A business that can sell to this client (who may be a new client) an item that would otherwise cost him storage fees or that he/she could not sell, might want to help facilitate access to credit (e.g. a real estate manager with empty office space to fill, will be interested in such a proposal, because he/she will still get paid for the rent of otherwise empty office space, even if he/she has to contribute a percentage to the guarantee fund. In addition, if business A ends up succeeding, it is likely that next year it will be able to pay 100% of the rent). This way, the model gives opportunities for local businesses to spend and at the same time creates selling opportunities for other local businesses.

A company that is a member of the Social Trade Circuit and that needs credit to buy from another member, can access to it. The guarantees are collected in the specific supply chain where the credit is going to be spent. In other words, a part of the costs of the credit are paid by the (group of) supplier(s) of the debtor, as this new credit is going to be spent with them.

The supplier is prepared to engage with this process because of the low marginal cost of supply. Overall, the gains of using the spare capacity, make a new sale and start new business relations, compensates the “cost” that they are assuming to get the new client by giving this credit.

The credit is given in T€s that are conditioned to be circulating within the local network until they can be exchange for euros at the date on which the credit should be honoured. This makes the credit very similarly to a digital post-dated check that promises to pay the bearer at a specific date in the future. So when a credit of 5,000 is to be repaid in half a year, 5000 T€s start to circulate between the members and each of them matures at the date the credit should be repaid. When the debt is repaid, holders of T€s with Time 0 can exchange them for Euros.

The debtor can pay back his debt either in T€s or in Euros. Ideally, the circuit becomes big enough to enable the debtor to earn enough T€s to repay his debt by selling services and goods inside the network. However, it is also possible to pay the debt with Euros with a conversion rate 1 to 1.

In essence, Social Trade Credit is derived from a credit flow analysis that maps the ‘downstream’ financial stakeholders in the supply of credit (the places where the credit will be spent down the chain), who are asked to make their contribution to a guarantee fund, called the cooperative stability fund. This contribution varies with the risk indicated by the evaluator of the client/debtor. The higher the risk, the higher the contribution of the supplier to the mutual insurances need to be in order to be allowed to pass the claim on to its own suppliers.

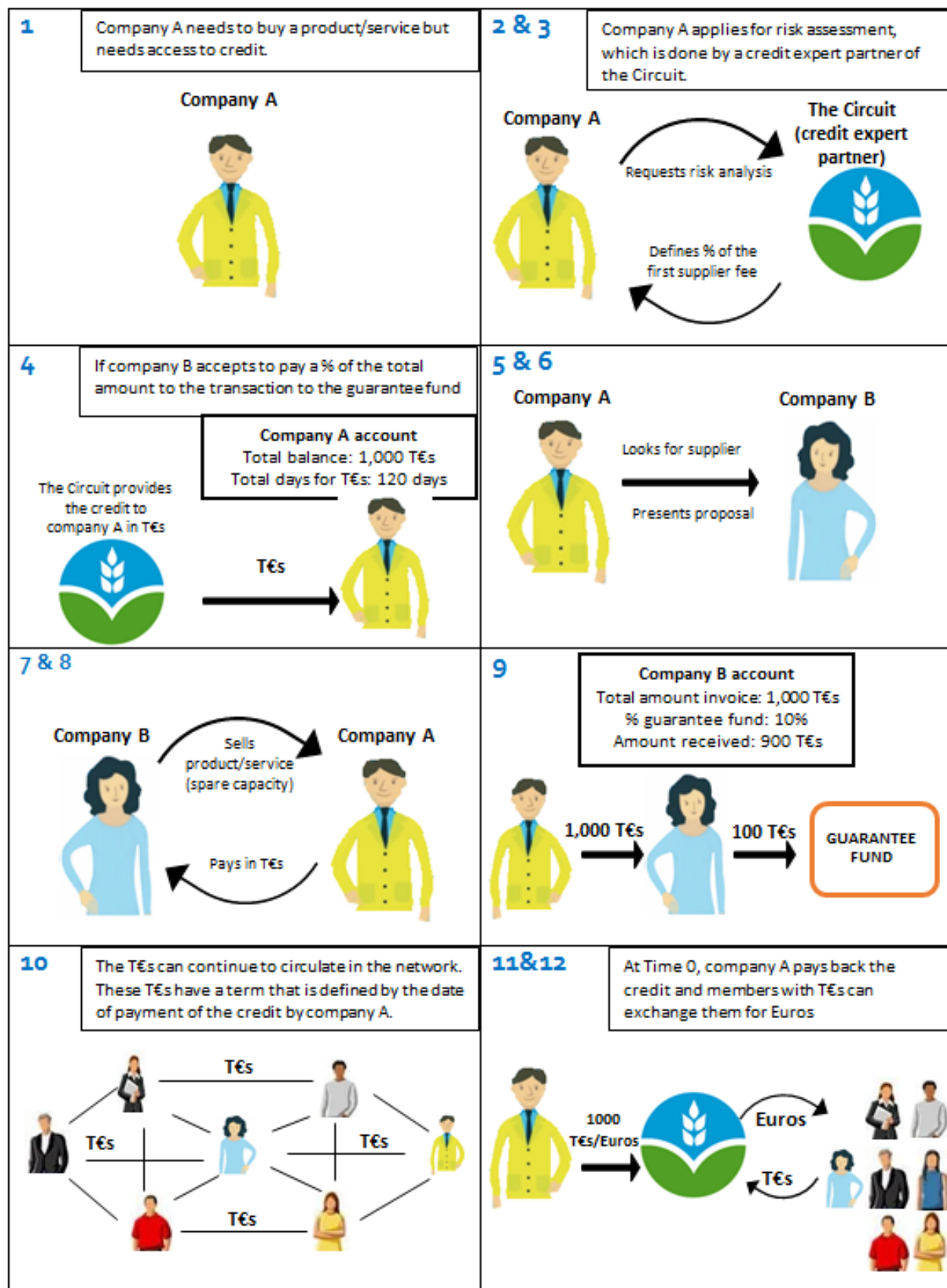
Let’s see the process in more detail.

How does it work?

1. Company A needs to buy a product/service but needs access to credit to acquire it. Company B has spare capacity and want to sell more.
2. Company A applies for a risk analysis with the Circuit Administrator, as the Circuit can facilitate a credit in T€s with no interests.
3. A credit expert, partner of the Circuit, makes the risk assessment of company A and defines the percentage of the contribution “first supplier fee”.
4. The Circuit releases the credit in T€s to Company A’s account. This credit can only be used if the supplier accepts to pay the first supplier fee and get paid in T€s.
5. Company A looks for and convince the supplier Company B, who is interested in selling its product/services.
6. Company A present the proposal to Company B, to pay the % to the guarantee fund (in exchange of having this extra sale of their unused spare capacity).
7. Company B accepts and delivers the product/service.
8. Company A pays the product/service of Company B with T€s.

9. Company B accepts the transaction, the T€s are sent to B's Circuit account and the first supplier fee is deducted from the total amount. This amount goes to the mutual guarantee fund.
10. Company B can use the T€s in its account to buy product/services from other companies in the network, for instance company C. Company C can also transact in the network with the T€s.
11. At $T=0$, the due date of loan repayment, Company A pays the amount of the debt to the Circuit. Company A can pay in T€s or in Euros.
12. At convertibility date, those members who have T€s in their accounts with $\text{Time} = 0$, can exchange them for Euros.

***There are two more scenarios of this model that you can check in the Annex. The scenarios refer to the cases where it is the supplier who finds a client and not the other way around, and the case where credit is given to the company and it cannot find any supplier that accepts the proposal to pay the first supplier fee. You will find the Step-by-step and a diagram model that facilitates the explanation.



Risks and how to manage them

It is reasonable to assume that a certain level of default will occur and so risk on default should be adequately insured. To ensure that the guarantee fund is not depleted, a professional credit risk check is done for A before its promise to pay is registered in A's Cyclos account, so member B, C, D, etc. can be sure of the value of the promise and do not have to verify A's creditworthiness themselves.

Risk assessment is of course, a crucial part of the model. Before joining the trade circuit to get a credit, every member must get a credit risk assessment. The credit expert or financial partner could be a bank or credit union.

There has to be sufficient margin between the estimated risk and the contribution to the guarantee fund of those in the supply chain. If the risks are very high, the suppliers have to pay a sturdy percentage as fee. Credit is only given when the 1st supplier has a marginal profit that is high enough to contribute to securing the credit risk. If A's cash flow problem is deemed a higher risk than the above limit of 1% (e.g. insurance costs are 20% of the transaction value due to absence of collateral – start-ups are a good example) the fund can still insure A's promise to pay if A is able to find a supplier B' that is willing to forego 20% of the payment in favour of the guarantee fund.

If there is a default, the security is primarily provided by an internal guarantee fund. In order to provide extra-insurance, it could be possible to add a second level guarantee of a bank or insurance company to make sure that debts are repaid by units or money. The idea is that businesses feel confident about 100% cashing at maturity.

In order to understand how does the guarantee fund works, it is relevant to highlight that the process that is described above, happens with many more companies at the same time, those who are also asking for credit and which suppliers are contributing to the guarantee fund: if out of every 100 beneficiaries, 1 goes bankrupt, an equivalent or slightly more conservative credit risk assessment ensures that the network will have a sufficiently large guarantee fund to support the value of the promises when this bankruptcy takes place.

SUBSIDY BACKED MODEL

Introduction

One of the most important responsibilities for a government is to ensure the well-being of the inhabitants of its city, region or country. Among the ways in which the government traditionally supports development is through subsidies, which give a financial base to many initiatives aimed at supporting the local economy. However, granting subsidies to local organizations does not necessarily translate into support for the local economy. Of course, the subsidy goes to a local organization, but this money can immediately leak from the local economy by buying imported products or paying foreign suppliers.

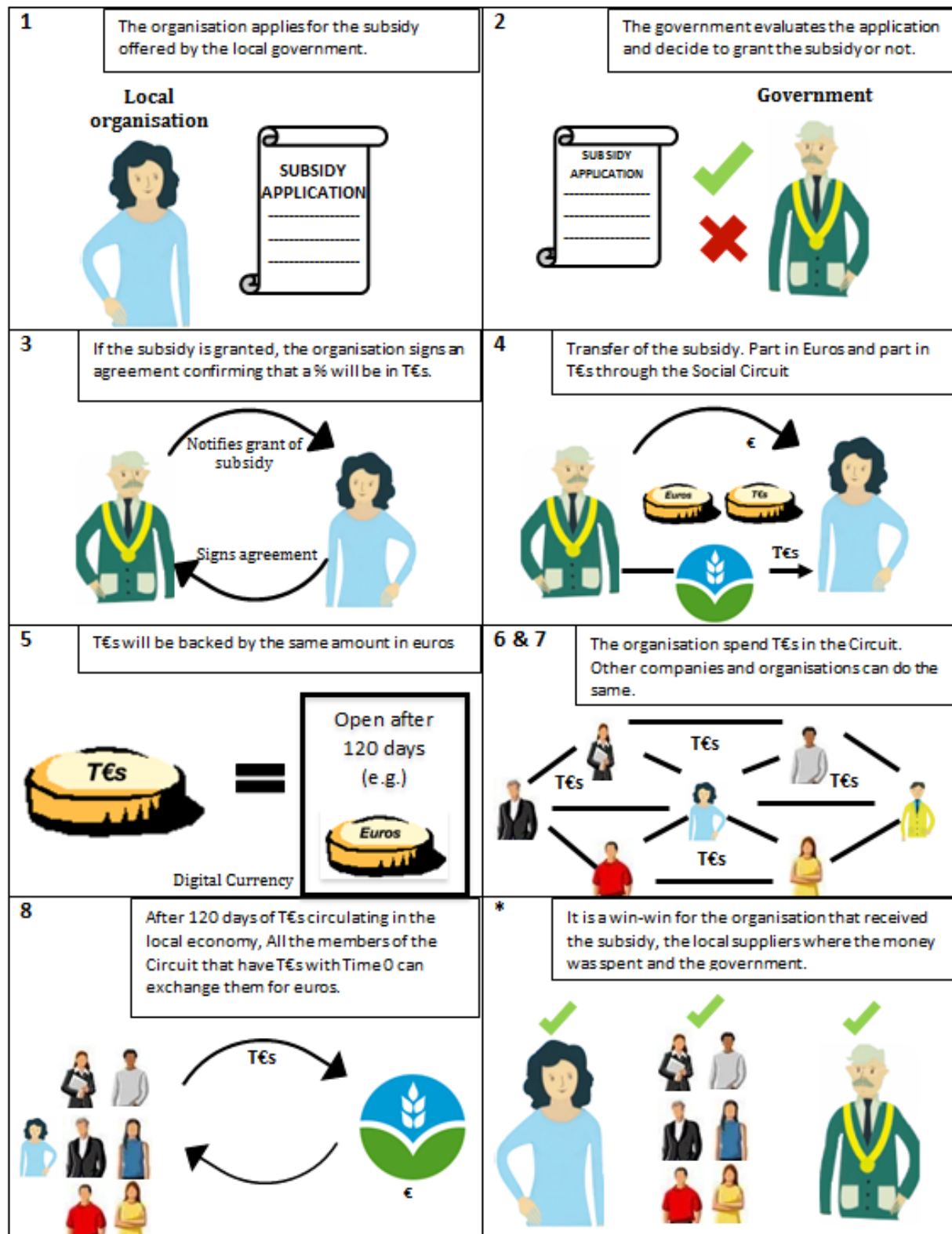
In this model, we propose that the subsidies granted by the government are given partially in T€s and in this way, be able to condition the time in which the subsidy money must be circulating locally. The euro convertibility system works the same as the models we have seen previously, as well as the purchase of goods and services within the Circuit.

This system is easily expandable to include salaries of civil servants where they will receive a part of their salaries in T€s. Government employees can then spend part of their salaries in the local business circuit as consumers. As you may now be thinking, this is the model that is being implemented in Santa Coloma de Gramenet.

How to do it? Step by Step

1. An organisation applies for a grant/subsidy given by the local government. The organisation is aware that part of this subsidy will be paid in T€s.
2. The local government analyses the application and decides to grant the subsidy, or not.
3. If the subsidy is granted, subsidy receiver signs a form accepting that part of the grant will be received in T€s.
4. The government transfers the subsidy, a percentage of it in Euros and the other percentage in T€s (the percentage in T€s is done through the Social Circuit).
5. The Euros that backs this T€s are deposited in an account that will be blocked until the convertibility date.
6. The grant receiver uses these T€s as payments for goods and services in local shops registered in the system.
7. T€s circulate in the network with transactions among the members.
8. At convertibility date, T€s holders can sell them back to the government via the Circuit administration.

**The organisation received the subsidy and also developed new business relations in the network, other local suppliers benefit from the expenditures in the network and the government ensure that subsidy money was also used to make the local economy stronger.*



SECTION 4 – STEP BY STEP GUIDE

In sections 2 and 3 you have discovered more about the pilots that were running under the DP4G umbrella and the models behind them. However, all the pilots have gone through a series of steps to reach the stage where they are now, all at different speed and adjusted to different contexts and circumstances.

In this section, we want to share with you a step-by-step guide in order for you to have a clearer idea on how to organize your own project; ideally, supported by external expertise with experienced in complementary and digital circuits, if you are not well acquainted with the topic yet.



This is a crucial step for the success of any project. Here you will define the essence of the project and design your strategy based on the findings that appear after a deep research and careful analysis. Do not underestimate the time for this step, as it will save you problems along the project.

First of all, you have to **identify clearly the problem**. With your project, you want to change a situation in your locality. What is this situation? State it clearly at base the objective of your project on it.

Now that you have identified what problem you want to tackle, you also need to do a **context mapping** in order to understand the conditions in which you are working. Research about up-to-date statistics of the place you want to intervene, look for trends and identify opportunities/constraints. A SWOT analysis is useful at this stage. The context mapping will also help you to identify if there are pre-existing systems that are already running and in which you can support (E.g. Bristol Prospects with Bristol Pound).



"The important thing with a new and innovative product is to really listen to what potential customers want rather than trying to impose a business model on them" (Bristol Team).

"Make sure to have a baseline study to measure results and give more arguments to the initiative. Without creating a powerful network of local professionals and businesses and a remarkable volume of money within the system, the project will not be viable. Hence the importance of giving up solid arguments based in a rigorous initial analysis." (Santa Coloma Team)



At this point, you also need to carry out an **economic mapping** describing the inflows and outflows of the local monetary system, so that one can see where the money that was inside the community is spent and from where it enters. This in turn will enable you to recognize the biggest sources that bring in and takes out money from the economy.

It is also important to do a **stakeholder mapping**, so that you have clear which actors you have to get involved and who could be your partners. Finding the right partners is a key aspect, as they will be directly involved on the operation and therefore, the success of the project. For instance, in the case of the Bristol Prospects, the partnership with Bristol Credit Union help to give the project credibility within the community. Document the role and responsibilities of each partner.

"If you are working with local administrators bear in mind important dates like local elections, as activity slowdowns in that period". (Santa Coloma Team)



"Select well your partner for credit administration and confirm from the beginning that they can actually do what you are looking for". (STRO Team)

"Take into account potential changes in local administrations. If you start assessing the feasibility of a project with one administration that will no longer be in charge when your project is going to be implemented, you face the risk of having to start all over again. If you foresee a new administration coming, involve them as well in the project design". (Sardex Team)


"Define your stakeholders not only before of the start of the project, but continue during the project all the time" (Bristol Team).

Ensure legal compliance and get legal advice. Check if someone else has already done the job or part of it, which will save you time and money. This is, for example, the case of Santa

Coloma that paved the path for other cities to implement a similar system without going through the same extensive legal process.

"Take into account that the legal research set-up takes a considerable amount of time. Involve as soon as possible legal authorities, who will give you guidance on what is possible to do or not. Ask them if they have "red lines", things that they will definitely not accept, and from there you can adapt your model and start the legal research and implementation accordingly"" (Santa Coloma Team)



"Do not forget to  accordance with legislative prescriptions regarding Electronic invoicing : Administration payment timing". (Sardex Team)

"Start from an early stage discussion with the Regulator (regulation of financial markets and innovative financial products) and try to build a continuous communication with them" (Bristol Team).

Based on the lengthy processes of the legal set-up in the pilot projects and lesson learned from that, STRO recommends the legal set-up of DigiPay system to be that of a Barter as this seems the legal entity that fits best all needs and requirements.

Define the strategy. Choose and adapt a model from the DP4G package (Section 3), or get inspiration from them to build your own model. Here are some aspects that you should think about when setting your model.

- How will the currency be backed?
- Is there convertibility on the national currency?
- How the loan risk will be assessed? Who will be in charge of it?
- Where will the income for the stability fund come from?
- Check carefully the regulations of accounts, even more if the currency is backed by the national currency.
- Clarify all significant in and outflows, and fees in the system.
- As you clarify the financial procedures, take into account that these procedures need to be audited by the National Financial Authorities. Take your time and choose well the entity that will do the credit rating because they are at the heart of the assessment process of loan applications, loan management and loan recovery.

Now you have decided a model to adopt and have clear the particularities of the system. It is time to share the idea with the rest of your team (in case not everyone was participating in the process of defining the model). You will need to **train your staff in the DigiPay4Growth model** you chose, and make sure they understand it as well.

Once you have clear the strong ideas of your project, you have defined the strategy and your team is tuned with the plan, do a detailed **cost – benefits analysis**. It will keep your ideas within your financial boundaries and will also help you to define if you need to raise more money and how much. It will also help you to understand if the project is financially sustainable.

As a project manager you will also have to think of different scenarios that your project could face. **Define which are the highest risks** that could threaten the project and their probability to happen. Anticipate possible trends and **define contingency plans**.

Before you implement your project, there are two transversal aspects that you have to address. **Plan the marketing campaigns**, including awareness and diffusion campaigns, take into account that money is spent in calls and visits to the potential beneficiaries, physical and digital material, newsletters, events, social media and main stream media, marketing material like films. Don't forget to include them in your cost-benefit analysis.

The second aspect is the **formation of user administration**, which means you have to take time to train you and your staff in the use of Cyclos, the technology supporting your strategy.

The final step of the design phase is the **drafting of contracts**. Contracts are necessary for getting SMEs, local entities and people from the community into the DPS (they could be adapted to be managed online).

Note: If you are working with multiple territories, do not use the same model for everyone. It should always be adapted to the particularities of each territory.

- **Check list of steps before moving to the next phase:**

- ☐ Problem clearly identified
- ☐ Context mapping
- ☐ Economic mapping of the local economy
- ☐ Stakeholders inventory
- ☐ Contact potential stakeholders and (additional) partners
- ☐ Legal investigation for local context and various model forms

- ☐ Choose final model / Define strategy
- ☐ Staff trained and have knowledge in DigiPay4Growth method
- ☐ Feasibility study – Cost-benefit analysis
- ☐ Identify risks and contingency plans
- ☐ Develop circulation and marketing plan
- ☐ Familiarize and install test instance Cyclos
- ☐ Choose final juridical and organizational structure
- ☐ Draft and sign contracts.



After you have defined your strategy, it is time to launch the project officially. At this point, you should have clear who will be in charge of what steps of the implementation. Clearly defining roles and tasks will make the implementation smoother.


Take into account that it is vital for the project to have a real leadership or manager project and to create confidence between partners. If you have a project that involved various locations, such as the case of DP4G, you have to ensure that each individual pilot has a management team and a leader in charge of the implementation in the ground.



"Once you launch it is important to remain open to continuous development and refinements of the model. Listening to our users and to external experts has led us to very significant changes which gave our scheme much greater chance of commercial success" (Bristol Team).

There is a key piece in this stage that could ensure or threatens the sustainability of the project: the brokering. Getting new members in and promoting trade between them has to be one of your main priorities. Getting acceptance for the currency will legitimate your model and will build one decisive asset: trust.

Tip from DP4G experience: DigiPay4Growth partners advise that in innovative projects such these ones and when public bodies have a large role in implementation, the design stage and making feasibility studies will take longer and it's a time-consuming task. Hence, only in the case where feasibility has been guaranteed, you can proceed to the implementation of the system.

 "Try pilots before expanding on a larger level. Test it on a small city for instance. Following the feedback that came from the initial trial, evaluate if its adequate and feasible to extend the project to other regions and cities". (Sardex Team)

How to get volume?

The problem of getting to volume once launched or launching at scale with enough joint companies is a case of the classic chicken-egg causality dilemma: how do you convince (larger/bigger) companies to join when there is not enough spending opportunities yet? The following strategies were identified as solutions:

- Channel credit through the system in order to create volume (example Sardex)
- Government expenditures: salaries, subsidies, public services; public works or public events such as concerts where you get a discount.
- Convince employees of shops and small businesses to accept part of salary paid in local currency. They have 2 ways of spending: for their business or as a consumer.
- Salaries in more detail: Santa Coloma showed a video about the benefits of the advantages of the local currency to groups of about 10-15 civil servants. Providing materials to the servants showing which companies are in the system.
- Do a Local Multiplier (LM3) study at the beginning of the project to see where the money is spent locally, and include these and other options in the system (See Glossary LM3).



MONITOR AND EVALUATE

It is important to define *from the beginning* the monitoring and evaluation system and the data collection process. Monitor constantly who is your public. Which companies are joining the network? What are their profiles, motivations and location? Ask your users how they are feeling and what obstacles they are facing with the system. This will help you to identify errors on time and correct them.

With the information you collect, you need to take decisions. It is not collecting information as another step of the process. Reflect on your users' feedback and if needed redefine your strategy to make it match to the market demand more accurately.

The M&E methodology should include high quality reports, in English, by all partners, including progress, final results, lessons learned and reflections. This process is particularly valuable for the formulation and management of similar projects in the future.



SHARE

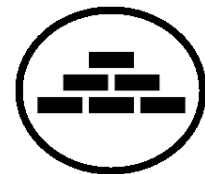
"Our high profile has inspired many other areas and regions to consider starting a local currency. This led us to create the Guild of Independent Currencies as a facilitating supportive network for these emerging currencies, encouraging them to help each other and creating a wider movement." (Bristol Team)



Share your model with others as they will help you to reassess it and validate it. It is indeed very useful to work from the demonstration of the model in pilot projects to the dissemination, as it is more efficient and successful when a project triggers the attention of other regions in the vicinity (as it has happened with all the DP4G pilots).



"You can freely share your experience, but keep in mind data protection of the users. There are certain procedures to be followed to safeguard the data, and remember that you are not allowed to sell them to third parties, unless the consumer has provided permission to do so."



KEEP BUILDING

Once your project has proven to be successful, you should keep building on it and try to reach scale and more impact. We will present you some forecast of future development from the DP4G pilots.

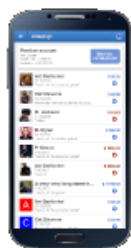
- ❖ **Bristol:** *"We look for the Bristol Pound CIC to provide credit to SMEs at a national level through it's 'Town Pound' services. This expansion of the credit scheme is not yet included in our business models but we anticipate appetite for it"*
- ❖ **Santa Coloma:** *"We envisage further projects and pilots in Spain and in other Catalan cities like Berga or Viladecans. Other financing options are being explored, like regional and province government grants helping city councils to co-finance the scheme."*

- ❖ **Sardex:** *“Our business plan and platform designs enable interoperability so we can imagine the development of an Italian or even a pan- european SocialPay platform based on our framework and best practices”.*
- ❖ **Social Trade:** *“We will develop special features for the collaboration with local city councils, such as buy local webshop that will provide a joint front platform for local shops and businesses, in order to be able to compete with larger (inter)national webshops”.*

SECTION 5 – THE ROLE OF TECHNOLOGY

Importance of counting on a reliable technological system

If you choose to have a digital currency (as all of the DP4G projects do) it is fundamental to have an adequate ICT platform to put your Digital Payment System (DPS) in place. The reason for this is clear: people (users) should trust the software they are using to manage their money. The software must ensure security on every transaction and must be able to deliver, receive and process transaction in an efficient way.



Ensure to have first-hand experience with the software platform and give this to the users. (Sardex Team)

Cyclos Software



Cyclos software (www.cyclos.org) is used as a Digital Payment System (DPS) to execute payments in a network of participating local businesses. It is a highly secure payment platform that enables users to make payments through Internet, cards, SMS and other mobile channels such as mobile apps. The software can be clustered to handle millions of users. It contains

many functionalities including an e-commerce platform, CRM functions and opportunities for branchless banking.

The online and mobile Digital Payment System is operational and securely hosted. It guarantees secure interface to financial software of third party institutions.



“Take into account the period of integration with the local administration IT system”. (Santa Coloma Team)

In DigiPay4Growth, Cyclos is used to channel money locally before it eventually flows out again



from the local economy. Whilst money is being “routed” within the network of local businesses, economic activity and income are created. In fact, the multiplier of the monetary inflows is increased. This is made possible through functionalities in Cyclos that allows regions to label flows of money for a specific period of time. During that time, the money is subjected to a more effective management so that it

can stimulate the regional economy. Electronic labelling of money provides the opportunity to influence not only the availability of money in a community, but also the way to manage it.

Cyclos has proven to be is an easily adjustable and customizable tool to reflect optimal conditions to reach project goals and to serve end users. This is reflected in increasingly more Cyclos contracts negotiated between STRO and commercial users who are paying for the software. Furthermore, Cyclos has more than 10 million users worldwide for mobile wallet and /or banking software functions resulting in financial inclusion of the unbanked. As a recognition of the technological innovation and its impact on society, Cyclos has been awarded with the e-pay innovation award of Bill and Melinda Gates in 2014.



How does it work?

Governments, businesses and citizens open digital accounts in Cyclos. These accounts are used to trade with other users of the system, to receive credit through the system or to pay government invoices. Governments can channel part of their expenditures through the system and make payments to suppliers. SMEs can receive payments in the system from either government or (new) clients and spend this income with their suppliers in the network. Participating SMEs increase their chances to obtain credit.

STRO can provide you with user manuals and administration manuals/installation guides for set up of the software. Please see <http://www.cyclos.org/documentation>. For more information see www.cyclos.org

"Cyclos helped us by making Sardex the success it is today. Our mutual credit network is handling a very large amount of transactions per day, it's crucial that they are all processed well. Luckily we found Cyclos which gave us freedom to experiment (in dev phase) and security by architecture (in production). It is reliable, well built and can handle high volumes of transactions".

Giuseppe Littera – CTO Sardex



"We have found the Cyclos system more than adequate for our needs to run a local currency to support SMEs, and has proved flexible enough in its configuration to cater for different needs as they arise."

Graham Woodruff, Technical Director BP



SECTION 6 – THE POWER OF COMMUNICATION

An innovative project implies new cultural approaches, changes and strong innovation in the organizational flows and processes. It changes paradigms and challenges societal structures, like the way we perceive how money works. For this reason, communication is an essential criterion to create a base of acceptance.

Define and adopt a dedicated Communication and Dissemination Plan, in order to interact with local administrations, stakeholders and SME's. It has the mission to raise awareness about the problem that you want to solve and explain people how you want to tackle this problem. It will help you to spread your vision and catch the attention of supporters, and will address the concerns of the sceptics. It is the way you are going to interact with the wider public and the image you will project from yourself and your project.

Here are some tips and examples of the Communication and Dissemination Plan of the DP4G pilots, classified by subtopics.



“A good branding is important because the trust in the brand build trust to try new products” (Bristol Team).

Knowledge sharing



Internal communication is a practice that needs to be promoted among the project partners and stakeholders. It will help to build trust and reach better outcomes as there are more inputs to solve problems, as well as a consensus about the solutions. In the DP4G project, mail, Skype and face-to-face knowledge-sharing sessions were used as efficient tools for communication between project partners.

“Having regular meetings with all the communities in the enabled us to share lessons learned amongst all local expectations was a very important aspect to retain



Netherlands (4-6 times per year), networks. Also, managing positive energy”. (STRO Team)

If possible, promote your project in high profile and smaller events, even before the official launch. Organize meeting with different stakeholders and have an open talk about how they see the project and the reserves they could have.

For instance, the Santa Coloma team organized meetings with entities representative that receive subsidies from the Council and meetings with employees of the council to sensitize that in the future there will be the possibility of receiving part of the salary in Gramas.



“If you are trying to encourage payroll in the new currency: Work closely with the public entity to improve payroll guidance documents and processes, for individuals and accounts departments. Commit to give talks in workplaces frequently” (Bristol Team)

“We learned that, at times, it could be better to not explain everything in the first meeting, but just to focus on the relevant aspects and then progressively include the other elements. All innovations require time to be processed and understood. Give this time to your stakeholders”. (STRO Team)

Marketing material

Marketing material such as flyers, posters, newsletters are a powerful tool to promote your ideas and call to action. This could lead to interested people to contact your organisation and to visit your website. They of course, cannot replace face-to-face communication, neither expect that this alone will build the network of users. However, they are a necessary support for your other communication strategies, including brokering.

- *Show practice. Show payment cards, vouchers. Find ways to inspire others.*
- *People want to understand not only advantages, but also how these advantages are realized. Keep this in mind when designing your marketing material.*
- *Make an animation that explains advantages for stakeholder, like this one <https://www.youtube.com/watch?v=pWAU33I5FL0>*



A strategy that has been useful for the Bristol Team was to use maps that indicates the geographical portion of companies that are part of the network:

Map with location of SMEs using Bristol Pound in Central Bristol



Offer advertising on maps and in the directory. The marketing strategy agreed for the future includes a series of maps, which prominently promotes geographical concentrations of member SMEs, a calendar and postcode campaign.



“Create diversity in the network from the beginning: Try to encourage at an earlier stage a wider geographical take-up of the currency” (Bristol Team)

Bristol also uses their printed notes as marketing tool. Bristol Pound has both electronic and paper currency. The paper currency depicts images that refers to Bristol personality and image

as an avant-garde city. Their designs reflect the spirit of the city and are inspired around a special theme; for instance, "Bristol Green Capital".



You can find more images in the Bristol Pound website: <https://bristolpound.org/new-bristol-pounds>

STRO decided to invest in Newsletters, updating information about the progress to the different stakeholders.



NIEUWSBRIEF

UTRECHSTE EURO

Hieronder het laatste nieuws over de Utrechtse Euro.

Flyers are also a marketing tool that worked in the DP4G pilots. Below are two samples of flyers used in the pilot in Santa Coloma.



Santa Coloma, Spain

Web tools

Keep an updated website with relevant information for anyone who wants to know more about your project. Use images, videos and any didactic material that could help the reader to understand the idea. If possible, use the advice of professionals on this matter.

Have a look at the different DP4G projects:

BRISTOL

<https://bristolpound.org/>

The screenshot shows the Bristol Pound website. At the top left is the logo, a blue circle with a white 'B' and the text 'BRISTOL POUND' and 'OUR CITY. OUR MONEY.' below it. To the right is a blue button that says 'CLICK & JOIN open an account...'. Further right are three circular buttons: an orange one for 'for me', an orange one for 'for my business', and a blue one for 'my account'. Below these is a dark navigation bar with white text links: 'WHAT IS IT?', 'WHY?', 'GET STARTED', 'HOW TO', 'DIRECTORY', 'BLOG, EVENTS & VIDEOS', 'ABOUT', and 'OUR SHOP'. The main content area features a large image of several Bristol Pound banknotes (1, 5, 10, and 20) with a hand pointing at one. To the left of the image is a blue box with the text 'BRISTOL POUND VIRTUAL CASHPOINT'. Below the image is a blue banner with the text 'ORDER ONLINE - DELIVERED TO YOUR DOOR'. To the right of the image is a grey box with the heading 'Love Bristol? Go Local!' and a paragraph: 'The Bristol Pound is money that's made by local people for local people. It can't be used outside BS postcodes, so money circulates around the city again and again, making our local economy greener, fairer and stronger.' Below this text is a colorful illustration of a row of houses and a 'Cafe' sign. At the bottom of this box is the text 'Find out more..'

BRISTOL POUND
OUR CITY. OUR MONEY.

CLICK & JOIN
open an account...

for me for my business my account

WHAT IS IT? WHY? GET STARTED HOW TO DIRECTORY BLOG, EVENTS & VIDEOS ABOUT OUR SHOP

BRISTOL POUND
VIRTUAL CASHPOINT

ORDER ONLINE - DELIVERED TO YOUR DOOR

Love Bristol? Go Local!

The Bristol Pound is money that's made by local people for local people. It can't be used outside BS postcodes, so money circulates around the city again and again, making our local economy greener, fairer and stronger.

Find out more..

SARDEX

<https://www.sardex.net/>



SANTA COLOMA

<http://www.grama.cat/>



Ajuntament de Santa Coloma de Gramenet → Subsites → Moneda Local

INICI

Accés usuaris

La Moneda Local

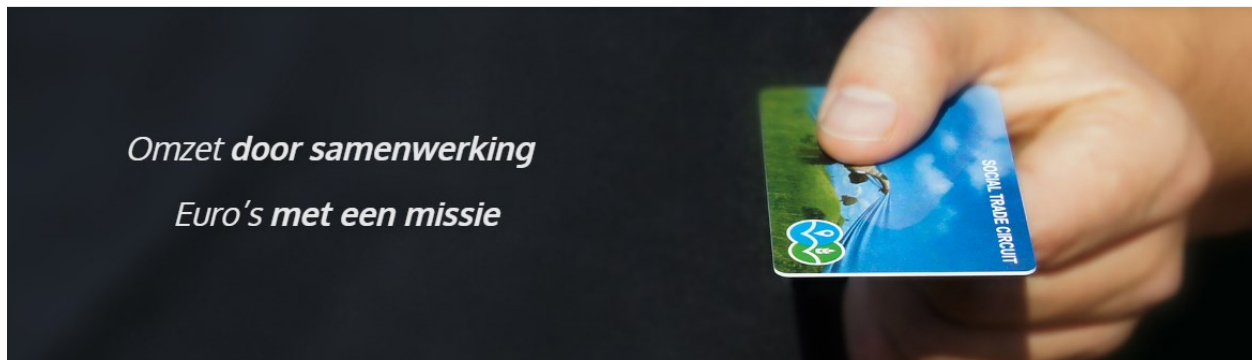
Fes pagaments

Et donem la benvinguda al portal de la Grama, la Moneda Local de Santa Coloma de Gramenet.

L'Ajuntament està impulsant una iniciativa absolutament pionera i molt il·lusionant, un projecte de ciutat basat en la innovació tecnològica i social per a dinamitzar el comerç local i promoure l'economia social i solidària. En aquest web pots consultar tot el relatiu al projecte de la Grama, Moneda Local.

THE NETHERLANDS

<https://www.circuitnederland.nl/>



*Omzet door samenwerking
Euro's met een missie*

Wat is het Social Trade Circuit Nederland?

Social media

In today's world, social media has become a "must" in tour marketing campaigns. The use of Twitter, Facebook, YouTube and other social networks will open you the door mass audiences, not only youngsters. It will help you to increase brand recognition and open another channel to communicate with the current and potential users of the network.

- *"Take advantage of high peak periods for your marketing strategies, like Christmas. Include a social media strategy" (Bristol Team).*



Brokering:

Take up will be a key challenge and the broker role is crucial as it will improve the opportunities for businesses to spend on, and spend easily. It is useful to map the 'holes' in the B2B suppliers, and identified businesses that could fill these holes. Trace 'spending circles' until they reach back to consumers. Money moves more easily around the system, and key business members are happier with the process and keen to stay involved. Open your mind and do not think just in

terms of the vertical supply chain (suppliers-producers-clients), but also how you can reach users in the horizontal/cross-cutting network that could be valuable for a company; for instance, accountants, lawyers, etc.




Training of brokers is a crucial part of the strategy. With the experience gained in Sardinia, we helped other regions to train their brokers for instance. Pay close attention to this step, as it can determine the success of your project. (Sardex Team)



Make sure that businesses have a clear contact information to reach you. Also, the existing businesses in the network are one of the best source to expand your target list of companies as they have a network of suppliers that can be reached and will be convenient for them to have them in the Circuit. So, propose existing business members to specifically approach their suppliers to tell them about the network.

Santa Coloma strategy was based on the construction of a network of shops participating in the D4G pilot, including door-to-door visits. Main strategy: First call to set up meetings. Meeting in the company's place. Direct meetings with potential beneficiaries of the project usually brings the best results, either when addressing governments or individuals. This helps them to better address their concerns on time.

Note: More tips on marketing strategies from all the partners:

- Look how to include larger companies in the network to give possibility to spend to other smaller businesses, with products / commodities that are commonly needed, e.g. electricity, local taxes. 
- Asking suppliers where they would like to spend. Then going to supplier and offer him a new client. Disadvantage: very labour intensive
- Training of brokers. In Sardinia brokering worked very well, but not that well in other Italian regions. Therefore, Sardex started to train the brokers in other regions as well.

Organizing events:

The idea is to offer an organized setting so to have live interactions with stakeholders and wider public that is interested can meet and discuss progress and ideas.

Ex: Bristol Pound organized a 'Meet the Buyer' event in conjunction with BCC. It was focused on giving SMEs the opportunity to meet new buyers and generate new business relations in the network.

Keep having events to keep your high profile. Organize events regularly to keep being in the news.



Inside the communities, another important “soft” element in the approach that works really well is to pursue a policy of regular (twice a month is indicative) face-to-face meetings of the business members of local communities. During these meetings, mutual help is given to find new leads for new business, e.g. through connecting people that might do business together (also if one of them is not in the network yet), giving a positive reference after business has been conducted, or by commenting on another member’s sale pitch. (STRO Team)

CONCLUSIONS

In this manual, you have been guided through innovative approaches that address current economic and social issues. You now understand better what is the logic and mechanisms behind them and see that solutions are already being implemented in other parts of the world.

Significant interest in the pilot projects have been shown and many cities and regions have started to copy the DigiPay models with support of the partners. The consortium has worked hard to overcome many obstacles in terms of project design, legal work, operational procedures, issues how to best reach volume, impact and in the end sustainability

We can now say that the way has paved to grow towards reaching volume. Sardex in Sardinia has shown that this is possible for credit and Santa Coloma and Bristol have shown that it is possible for a local municipality to channel subsidies and for local council taxes and business taxes to be paid through using the DPS. The Netherland project proved that it is possible to work on a national scale with local communities sharing knowledge and being supported by a central organisation. In the end the good results have been illustrated in relation to what is possible in the future.

Indeed, DP4G is a technically complex project that requires many perspectives and prospects for its construction. It needs an economic analysis, a technological evaluation and a strong legal construction. Nonetheless, we are confident that the progress made until now will bear further fruit in the years to come and will inspire other projects to find their way. Finally, we hope that this manual has been useful for your purposes, that you understand why money is a key piece in the optimization of regional economies and that you now have more tools to help your local community to thrive.



“Developing a generic model for maximizing the multiplier effect of regional and city expenditures alike is a major challenge but can be mastered with time, effort and clarity” (Sardex Team).



Image: Bristol Pound

FURTHER READING AND RESOURCES

Books:

Van Arkel, H., & Ramada, C. (2002). *Arm door geld maar ook... nieuwe kansen op bevrijding van de globaliseringsmachine*. Strohalp.

Een ander soort geld. Helen Toxopeus, Henk van Arkel.
<https://www.managementboek.nl/boek/9789062245314/een-ander-soort-geld->

Handbook

Plugging the Leaks: making the most of every pound that enters your local economy (2002)
Bernie Ward and Julie Lewis. London, United Kingdom: New Economics Foundation. Download
at <http://www.neweconomics.org/publications/entry/plugging-the-leaks>

Articles:

http://cat.elpais.com/cat/2016/11/22/internacional/1479854618_869834.html

<http://www.thedailybeast.com/articles/2016/06/06/the-woman-who-s-conquered-rome.html>

ANNEXES

DIAGRAM VERSIONS OF MODELS IN SECTION 3

Useful vocabulary:

***Convertibility date:** Refers to the date when T€s can be exchanged for Euros. Each one of the T€s circulating in the network is tagged with a specific date that corresponds to the number of days they need to be circulating in the local economy. T€s can be converted when they are tagged with time zero $T€=0$.

***First supplier fee:** Fee to be paid by the supplier where the credit is first spent. This fee is a percentage of the total amount of the transaction and it is determined by the risk evaluator according with the risk profile of the credit applicant.

INVOICE BACKED MODEL

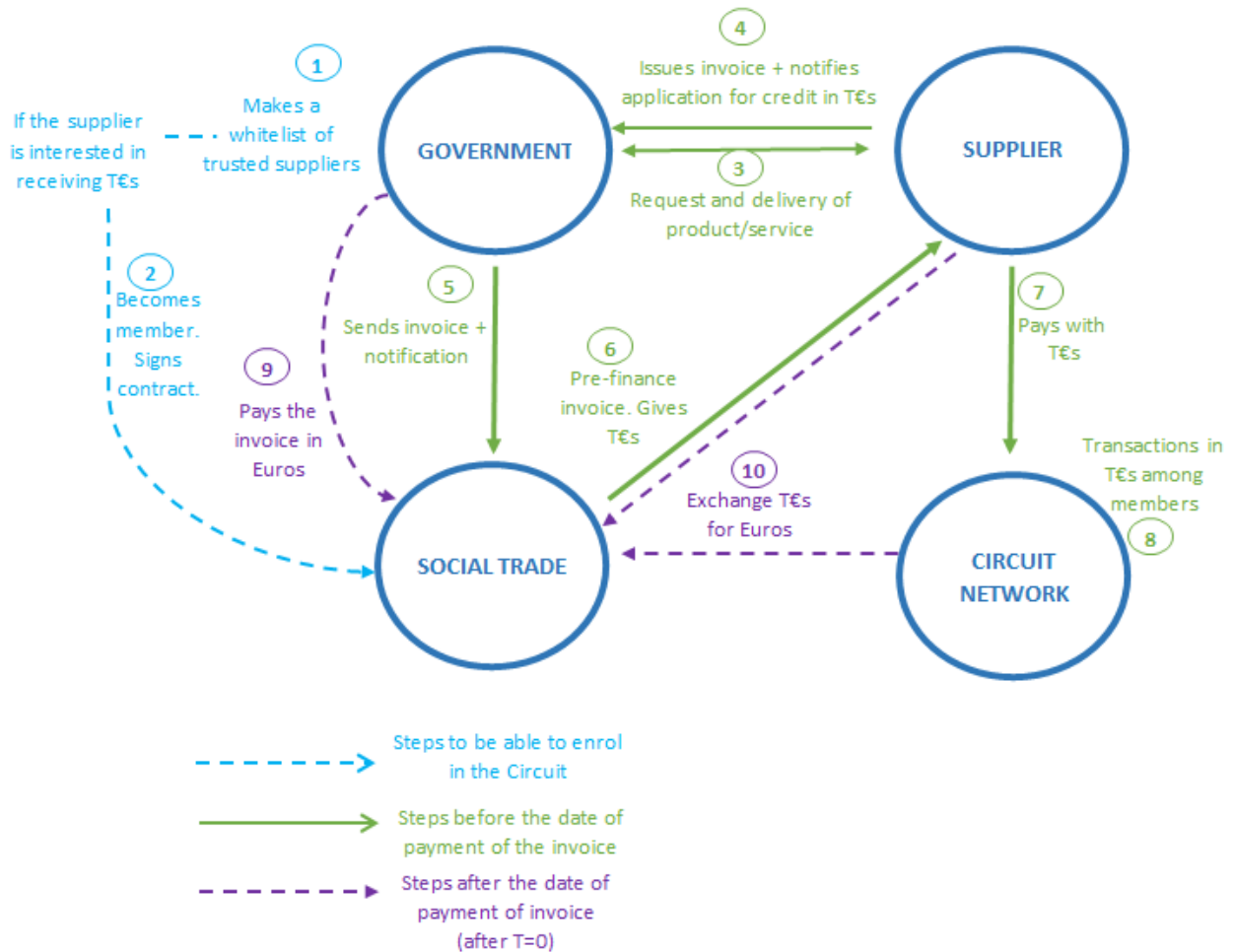
TYPE 1: CREDIT FOR GOVERNMENT SUPPLIERS

Step by step Pre-financing Approach

1. Governments make a white-list of their trusted suppliers and let them know that they have the option to enrol in the Circuit. If the suppliers choose to join, they could have access to credit in T€s for the same amount of the invoice they issue to the government for their product/services.
2. Suppliers interested to join the network, have to sign up to the Circuit. Once they are members of the Circuit, they can apply for a credit based and equal to the invoice they have delivered to the government.
3. The government request a product/service from the supplier. The supplier delivers a good or service to the government.
4. The supplier notifies the government that he wants to apply for the Circuit credit and sends the invoice with the notification stating that he wants to receive the credit in T€s.
5. The government sends a copy of the supplier's invoice and the notification to the Circuit administration.
6. The invoice is pre-financed and the Circuit enters T€s in the account of the supplier.
Ex: When a local supplier has delivered a good or service to the local government with a value of let's say 1,000 euros, he can convert his invoice immediately into a credit for 1,000 T€s.
7. The supplier now is free to spend as much of the balance he has in T€s on his account with all other companies participating in the Circuit that accepts T€s.
8. These T€s have a term that is defined by the date of payment of the invoice. They can continue to circulate in the network with transactions among the members.
9. At Time 0 (the date of payment of the invoice) the government pays the invoice to the Circuit with euros.

10. At convertibility date, those in the Circuit who have T€s with Time 0, can exchange them for Euros with the Circuit; could either be the supplier who has the credit and did not spend it all in the network and/or the companies where he has spent his T€s.

DIAGRAM INVOICE BACKED MODEL – CREDIT FOR GOVERNMENT SUPPLIERS

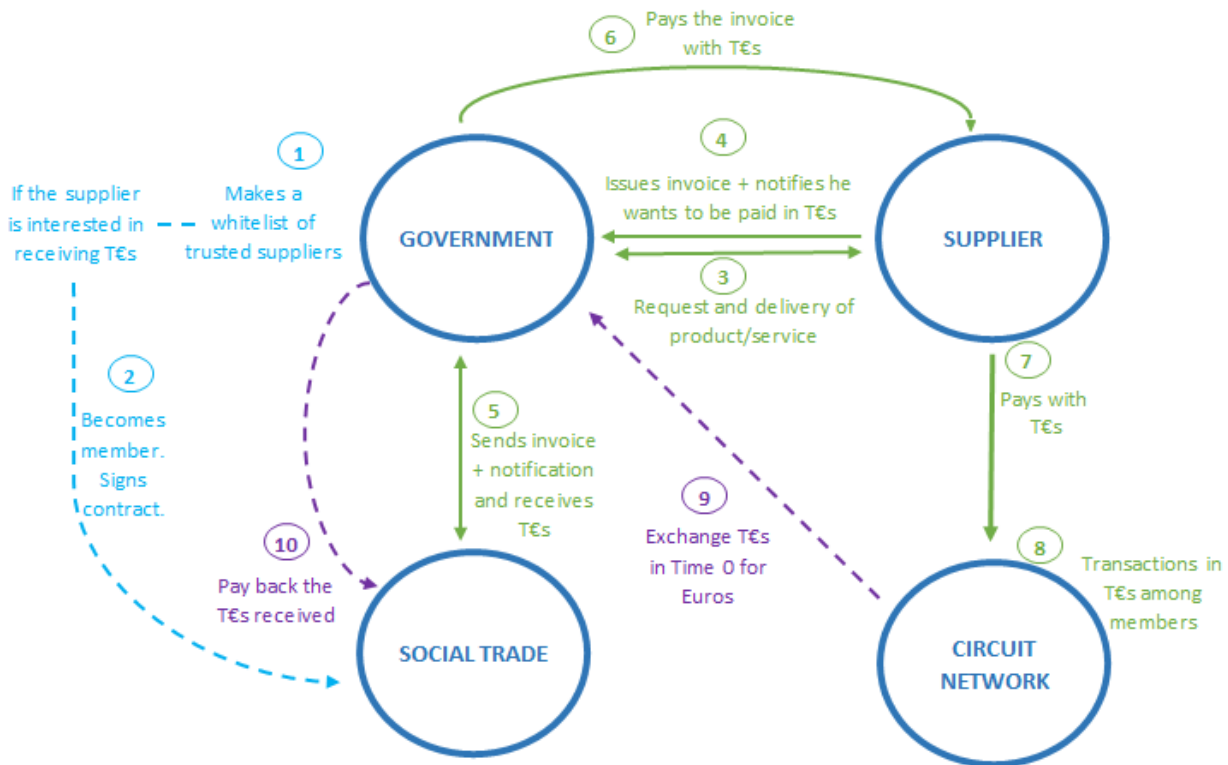


TYPE 2: CREDIT FOR THE GOVERNMENT

❖ Step by step Credit to the government Approach

1. Governments make a white-list of their trusted suppliers and let these suppliers know that they have the option to enrol in the Circuit. If they choose to join, they could have access to credit in T€s for the same amount of the invoice they issue to the government for their product/services.
2. Suppliers interested to join the network, have to sign up to the Circuit. Once they are members of the Circuit, they can be paid in T€s if they want to.
3. The government request a product/service from the supplier. The supplier delivers a good or service to the government.
4. The supplier notifies the government that he wants to be paid in T€s to make the invoice liquid instantly
5. The Government forward a copy of the invoice and a notification to the Circuit and receives credit in T€s to instantly prepay the supplier.
6. The government enters T€s in the account of the supplier.
Ex: When a local supplier has delivered a good or service to the local government with a value of let's say 1,000 euros, he can convert his invoice immediately into 1,000 T€s.
7. The supplier now is free to spend as much of the balance he has in T€s on his account with all other companies participating in the Circuit that accepts T€s.
8. These T€s have a term that is defined by the date of payment of the invoice. They are "tagged" with a counter that counts down the days until the date the invoice has to be paid by the government. After this period, these T€s can be exchanged for euros.
9. At Time 0 (the date of payment of the invoice), those in the Circuit who have T€s with Time 0, can exchange them for Euros with the government.
10. The T€s that the Government has collected again will serve to settle its obligations towards the Circuit.

DIAGRAM INVOICE BACKED MODEL – CREDIT FOR THE GOVERNMENT



CAPACITY BACKED MUTUAL CREDIT MODEL (SOCIAL TRADE CIRCUIT)

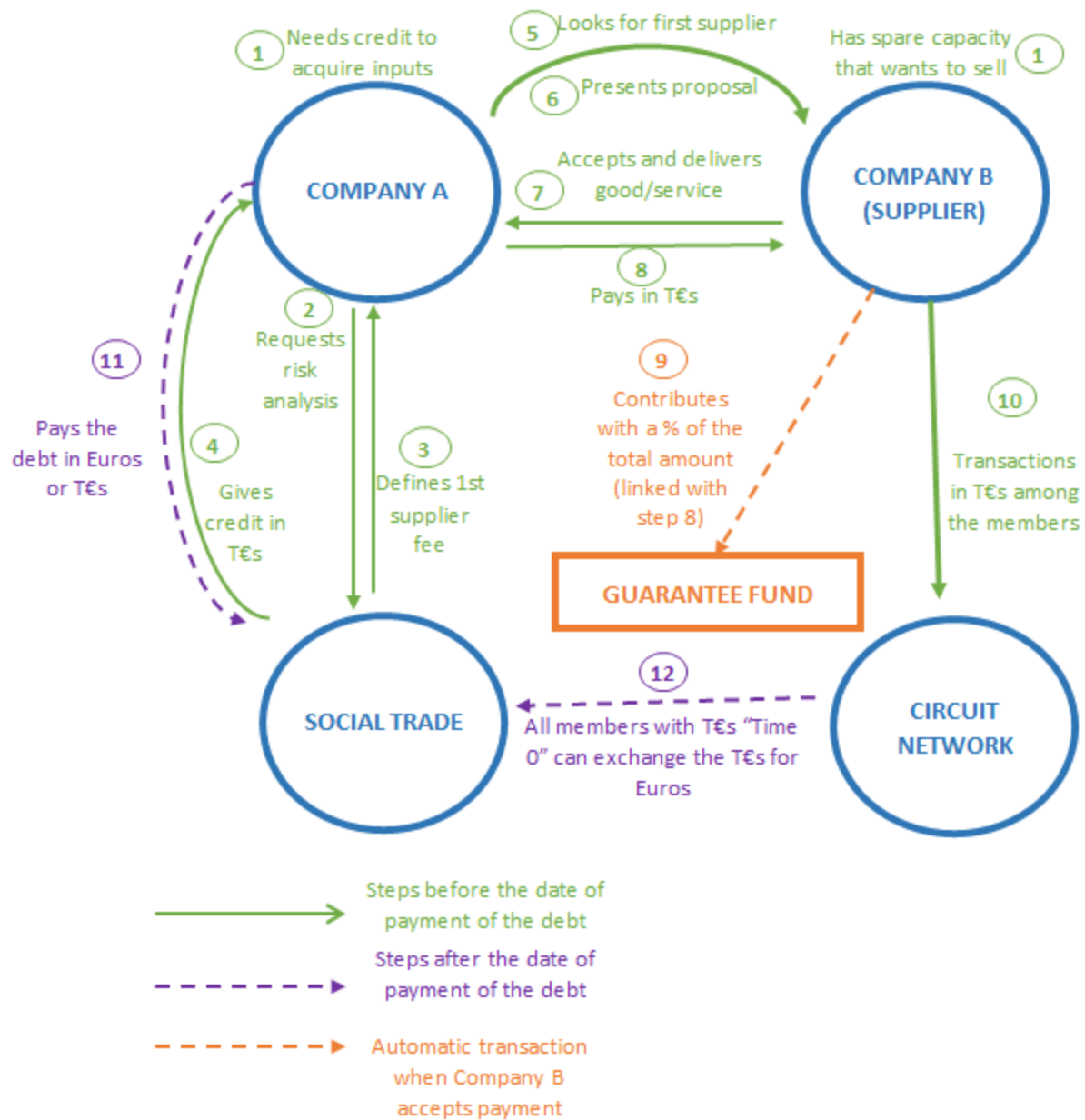
Scenario 1: Company A receives credit in T€s and look for a supplier B that can back up the credit.

Step by step

1. Company A needs to buy a product/service but needs access to credit to acquire it. Company B has spare capacity and want to sell more.
2. Company A applies for a risk analysis with the Circuit Administrator, as the Circuit can facilitate a credit in T€s with no interests.
3. A credit expert, partner of the Circuit, makes the risk assessment of company A and defines the percentage of the contribution "first supplier fee".
4. The Circuit releases the credit in T€s to Company A's account. This credit can only be used if the supplier accepts to pay the first supplier fee and get paid in T€s.
5. Company A looks for and convince the supplier Company B, who is interested in selling its product/services.
6. Company A present the proposal to Company B, to pay the % to the guarantee fund (in exchange of having this extra sale of their unused spare capacity).
7. Company B accepts and delivers the product/service.
8. Company A pays the product/service of Company B with T€s.
9. Company B accepts the transaction, the T€s are sent to B's Circuit account and the first supplier fee is deducted from the total amount. This amount goes to the mutual guarantee fund.
10. Company B can use the T€s in its account to buy product/services from other companies in the network, for instance company C. Company C can also transact in the network with the T€s.
11. At $T=0$, the due date of loan repayment, Company A pays the amount of the debt to the Circuit. Company A can pay in T€s or in Euros.
12. At convertibility date, those members who have T€s in their accounts with $Time=0$, can exchange them for Euros.

DIAGRAM CAPACITY BACKED – MUTUAL CREDIT MODEL

SCENARIO 1



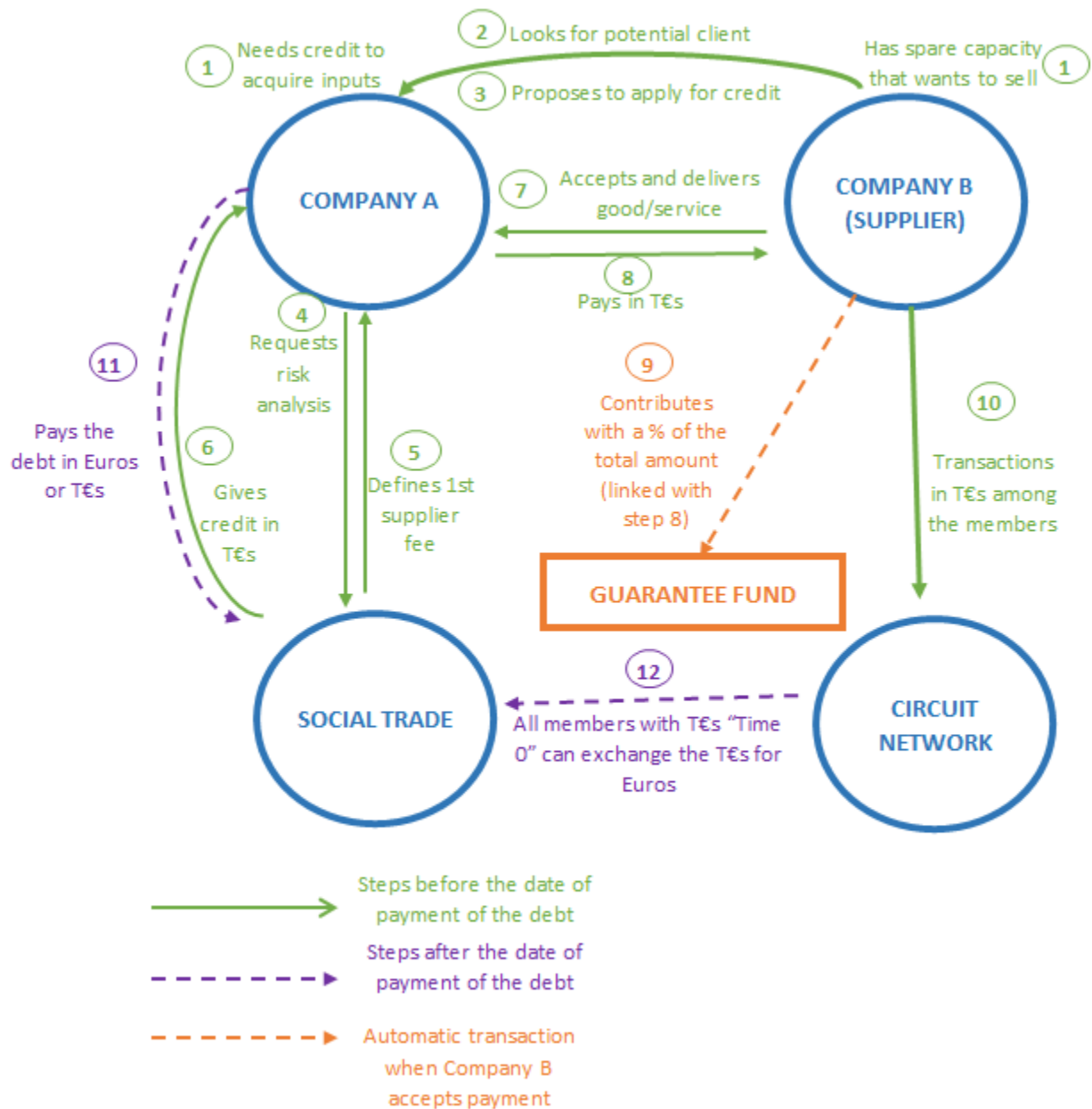
Scenario 2: Supplier B needs to sell his spare capacity and finds a proposes to back up the credit of a potential client

Step by step

1. Company B (supplier) needs to sell its products/services as it has spare capacity (See glossary p.6).
2. Company B finds a client (Company A) interested in buying its products/services, but company A will need access to credit in order to buy it.
3. Company B proposes to Company A to apply for the credit in T€s and B will pay the first supplier fee. Company B benefits as it can sell its spare capacity and use the T€s in the network; instead of waiting for a client to pay a debt or not having this client at all.
4. Company A applies for a risk analysis with the Circuit; as the Circuit can provide zero interest loans.
5. A credit expert, partner of the Circuit, makes the risk assessment of company A and defines the first supplier fee.
6. The Circuit releases the credit in T€s to Company A account.
7. Company B delivers goods/services to company A, now that it has credit.
8. Company A uses this credit in T€s to pay Company B.
9. Company B accepts the transaction, the T€s are sent to B's Circuit account and the first supplier's fee is deducted from the total amount. This amount goes to the mutual guarantee fund.
10. Company B can use the T€s in its account to buy product/services from other companies in the network, such as Company C. Company C can also transact in the network with the T€s.
11. At $T=0$, the due date of loan repayment, Company A pays the amount of the debt to the Circuit. Company A can pay in T€s or in Euros.
12. At convertibility date, those members who have T€s in their accounts with $\text{Time}=0$ can exchange them for Euros.

DIAGRAM CAPACITY BACKED – MUTUAL CREDIT MODEL

SCENARIO 2



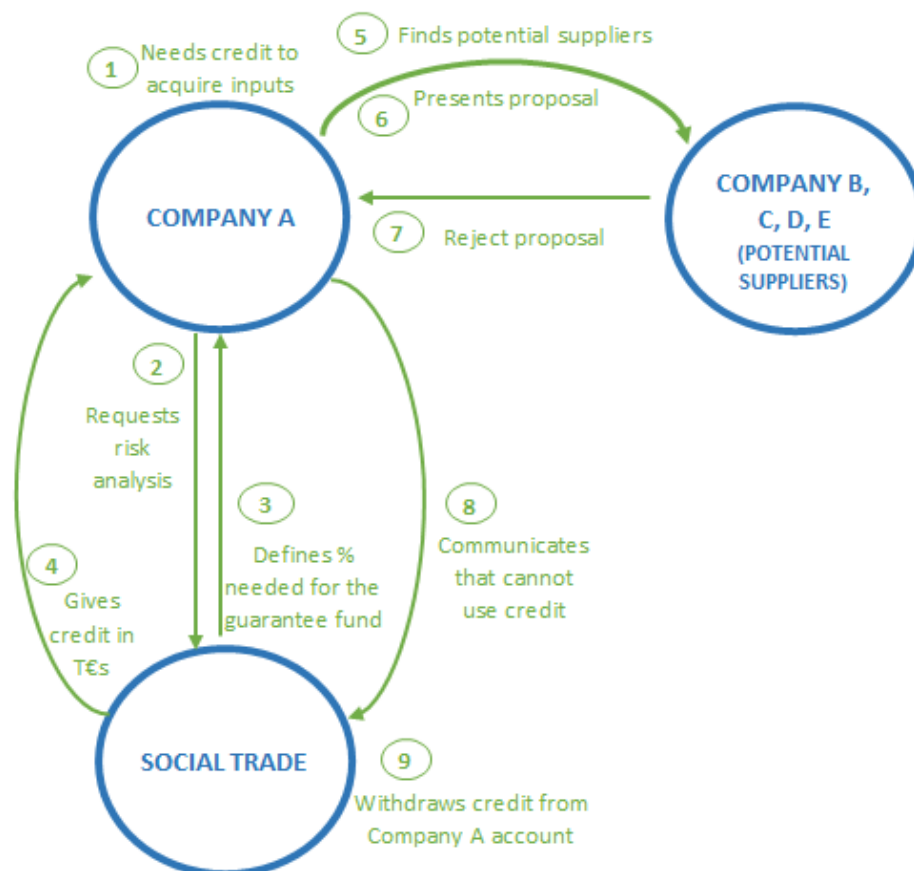
Scenario 3: Company A receives credit in T€s and look for a supplier that can back up the credit, but cannot find any supplier willing to do it.

1. Company A needs to buy a product/service but needs access to credit to be able to pay for it

2. Company A applies for a risk analysis with the Circuit; as the Circuit can provide zero interest loans.
3. A credit expert, partner of the Circuit, makes the risk assessment of company A and defines the first supplier fee.
4. The Circuit releases the credit in T€s to Company A account. This credit can only be used if the supplier accepts to pay the first supplier fee and get paid in T€s.
5. Company A finds the suppliers Company B, C, D, E.
6. Company A present the proposal to Company B, C, D, E to pay the % to the guarantee fund.
7. Company B, C, D, E refuses to pay this percentage to the guarantee fund to acquire this new client (maybe the risk of Company A is too high and so is the percentage to pay).
8. Company A cannot use its credit and communicates this to the Circuit.
9. The Circuit withdraw the credit from Company A account or he decides to give it back himself.

DIAGRAM CAPACITY BACKED – MUTUAL CREDIT MODEL

SCENARIO 3



SUBSIDY BACKED MODEL

Step by step

1. An organisation applies for a grant/subsidy given by the local government. The organisation is aware that part of this subsidy will be paid in T€s.
2. The local government analyses the application and decides to grant the subsidy, or not.
3. If the subsidy is granted, subsidy receiver signs a form accepting that part of the grant will be received in T€s.
4. The government transfers the subsidy, a percentage of it in Euros and the other percentage in T€s (the percentage in T€s is done through the Social Circuit).
5. The Euros that backs this T€s are deposited in an account that will be blocked until the convertibility date.
6. The grant receiver uses these T€s as payments for goods and services in local shops registered in the system.
7. T€s circulate in the network with transactions among the members.
8. At convertibility date, T€s holders can sell them back to the government via the Circuit administration.

**The organisation received the subsidy and also developed new business relations in the network, other local suppliers benefit from the expenditures in the network and the government ensure that subsidy money was also used to make the local economy stronger.*

