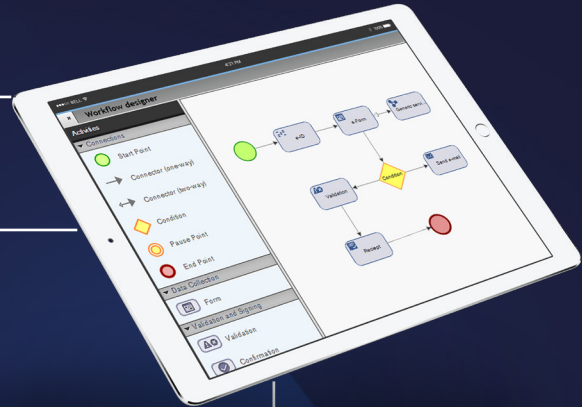TRANSPARENT
PROCESSES

TRACABLE
DECISIONS

PROCESS
AUTOMATION

ONE PLATFORM FOR DIGITAL INNOVATION
E-Government

How to make the most out of e-Government initiatives? This document includes an introduction to e-Government challenges and *Compose* low-code application software that supports long-term and flexible e-Government solutions.

www.usecompose.com | info@usecompose.com

Contents

Value Realization in E-Government Strategies:

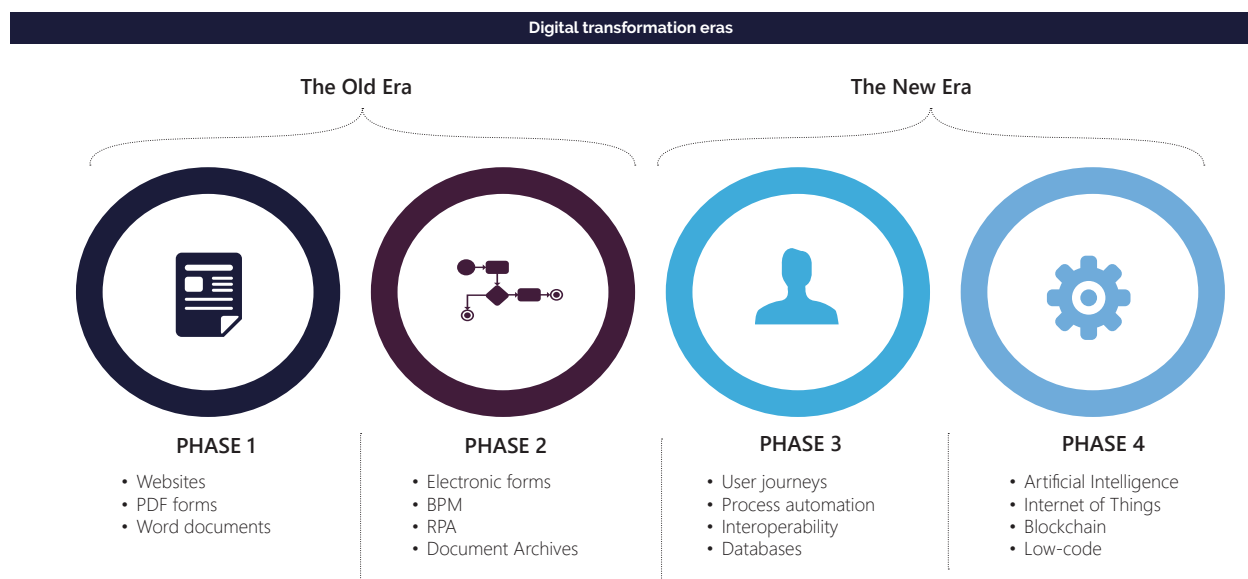## Key Take-Aways for the Next Digital Era

Governments today are facing a challenging task: To innovate and adopt technological changes to provide better and efficient services, and at the same time maintain operations serving and protecting the public.

Digital transformation in Government involves a broad set of technologies and areas of application. Different countries have varied social and economic factors determining the potential of digitization. However, they all share the same objective: to use technology to increase productivity and deliver quality services to the public. Productivity is essential because it allows Government to focus on areas of development and improvement, rather than paperwork. Efficiency in government operations means a better allocation of public assets, which helps to legitimate taxes and create wider trust.

By simplifying reporting procedures and interaction with the law, citizens and businesses are capacitated to fulfill their obligations and duties. The the goal of digitization is not to remove administrative policies but to empower them by enhancing accessibility to high-quality services online.

THE NEXT ERA FOR E-GOV

The first era of e-Government mainly focused on making information available via websites and downloadable PDF forms. Bureaucracy **>>>>**

Digital transformation eras

The Old Era | The New Era

PHASE 1	PHASE 2	PHASE 3	PHASE 4
• Websites • PDF forms • Word documents	• Electronic forms • BPM • RPA • Document Archives	• User journeys • Process automation • Interoperability • Databases	• Artificial Intelligence • Internet of Things • Blockchain • Low-code

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E-Government & Compose Low-Code Platform

is still a clearly visible interface for citizens, as functions and information are related to departmental structures. In contrast, the new era of digitization requires a holistic process and data-centered approach when transforming traditional paperwork.

Government's reporting and documentation processes are often defined in laws and regulations stipulating how to gather and process data. A procedure means in most cases that a task is repeated frequently and includes structured information. These conditions allow the implementation of law-based procedures as digital processes and the delivery of highly contextual user-experiences online. Governments today are still a long way from realizing this potential as they keep rebuilding the bureaucracy in a digitial form.

WHY USER CONTEXT MATTER

A citizen's duties and rights in society are largely dependent on their life situation. The processes related to their various duties and rights are normally handled by various government agencies and administrative levels, e.g. municipalities, counties, and the state. For the government, this is a necessary bureaucracy, but there are few arguments for why citizens should have to deal with the same structures online.

Governments must aim to define their services as situational e-dialogues to give citizens and businesses access to relevant services based on their life situation. «Single Window» or «One-stop-portals» have become increasingly used terms in e-Government strategies, and involves providing public services with a single access point.

To deliver seamless user experiences across departments, it requires extensive collaboration in service development between government departments and levels. It can be challenging to create solutions that satisfy all stakeholders' interest, and at the same time follow national interoperability frameworks and standards. Interoperability requires flexible technology that facilitates collaboration. Custom coded solutions

are rarely a good answer to interoperability issues.

THE SHIFT TO A DATA DRIVEN ECONOMY

Interoperability requires a structural approach to data gathering, to make sure information can be easily found, shared and re-used. Most work processes involve several parties with different tasks and purposes of gathering, processing and exchanging information. In the new era of e-Government, electronic forms, digital workflows, and databases replace the traditional document centered way to receive, register and archive information.

To fully embrace the new era of digital transformation, Government must shift to a data-centered approach to application development and case management. Economists, tech leaders, and politicians have repeatedly stated that «data is the new gold». However, data is not worth anything if the quality is low.

Data quality depends on whether the information is structured in a way that makes it easy for everyone to understand, it's updated, it's easy to re-use and share. This means that it's the utilization, processing and analyzing of data that are «the new gold». This is why data quality should be considered high priority in any e-Government strategy. **> > > >**

Shared services across departments
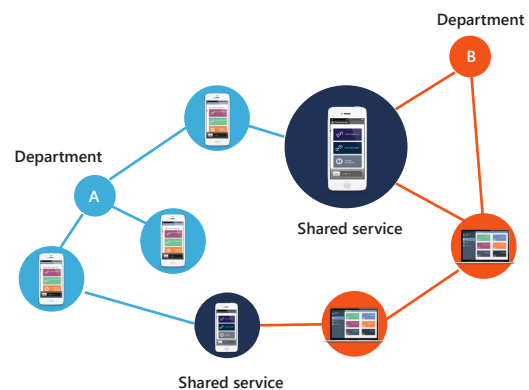
DATA QUALITY BEFORE AUTOMATION

One of the main benefits that online services offer is the ability to assure high data quality. Advances in application development technology assure that online services obtain the same legal quality as traditional paper documents (if not better).
A screen dialogue is far more flexible than a piece of paper because it can respond to the user. We can apply conditions, instructions, and validation to guide the users. A smooth and relevant human-computer-interaction reduces chances of input errors and assures that collected data is correct. Forms with error is an expensive matter because it results in a redo of the whole process, or worse, - it will be processed and declined/accepted on a wrong basis.

Government must assure that the application process and input options support data quality from the moment it's produced by the end-user. Only when data input is fail-proof, the system can make automated decisions. Process automation has a massive potential for freeing resources from repetitive work but varies significantly in terms of costs to achieve and technical feasibility. We believe that automation should be a natural step in digital transformation projects, but not necessarily the first.

Many larger digitization projects fail because they attempt to do everything at once. We always recommend to start small, learn, and scale smart. Organizations that want to regain control in their digital transformation process must understand the underlying processes and data structures that are used to define electronic forms and workflows that enable process automation.

Improving efficiency in organizations

manual work
supported by AI
supported by RPA
business operation automation
(low-code)
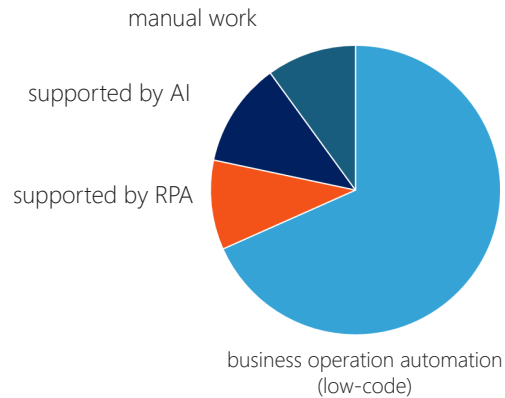
The advantage of automation from a Business Process Management perspective (BPA) is that it provides a holistic end-to-end process-oriented approach. The focus is on overall improvement of operations and to remove bottlenecks. Combined with other technologies such as AI, Robotic Process Automation (RPA), Blockchain and Internet of Things, government can learn to facilitate synergies to fill efficiency gaps in their operations. Regardless, the core focus should remain on improving the overall operations.

EXPECT CHANGE, ADOPT AGILE TECH

Finally, change is inevitable in digitization projects. Governments must expect change, and work systematically to detect and adapt to unexpected issues or needs. It is important to remember that allthough agile methodologies is a good approach to handle change, you can still build a «perfectly good» legacy system with agile methodology. Agile development can only take you so far if the technology used is not agile. Flexibility for development, maintenance and change are also crucial.

Why Low-Code Technology Should be Your Long-Term Fix for Legacy Systems

Low-code means to develop applications with minimal use of coding. Low-Code Development platforms often include the use of visual modeling tools to build functionality traditionally built by developers.

This enables business people and other professionals to build and test applications fast without coding. Teams that use low-code technology can significantly improve delivery capacity in digitization projects.

WHY LOW-CODE?
The demand for application services in government and private organizations has mainly been met with hard-coded solutions. Consequently, all internal and external applications were built from scratch by IT specialists. Even when re-using code, we witnessed a thriller series of time-consuming and expensive IT projects. This fragmented approach to application development created digital barriers between systems preventing effective exchange of information. With little or no flexibility for adaptions and improvement, legacy systems worth billions had to be thrown out.

Many organizations are still building solutions this way. Others want to wait for trend technologies to settle before they make investments. Both fail to realize that change is the new normal. Businesses and government must realize that digitization is not a project with a start and an ending, but

a constant process that needs to be adopted in the organization to meet fast-changing user expectations and technology trends. Change is inevitable in digitization projects and makes it crucial to use flexible technology.

LOW-CODE FLEXIBILITY
More and more organizations are turning to low-code platforms to regain control in their digitization projects. A low-code platform is a type of software that allows users to work with visual modeling functionality that automatically generates coded applications. This enables teams to develop and test applications and within days.

Increased productivity is the most important strength of low-code software compared to traditional coding, which is why Gartner first named it «High Productivity Application Platform-as-A-Service». «Low-code» is a simplified term and is pointed out by Forrester as a key strategy to accelerate digital transformation. Forrester estimated that the low-code market will reach $10 billion in 2020.

Compose is a low-code platform **>>>>**

What can I build with Compose?

- Citizen service portals online
- Responsive web-applications for web & mobile
- Reporting applications for businesses
- Employee and customer-faceing applications
- End-to-end process optimization of internal operations
- Data gathering apps combined with IOT or AI
- Contract & customer agreements

Want to know if low-code fits your digitization goals?

Book a demo!

developed by the Norwegian software company Compose Software. The platform has been under continuous development for 20 years to meet needs for productivity and flexibility in application development in the public and private sector.

LOW-CODE VS. NO-CODE
The difference between low-code and no-code can often be related to what degree of technical skills is needed to use the platform. Low-code often includes possibilities for additional customization by script or code. This makes the technology more flexible for complex configurations.
Compose is used by both developers and business professionals. It is fully possible to build electronic forms, workflows and automate business processes without technical skills. Yet, most of our customers have both technical and non-technical people in their teams working with Compose. This is mainly because many customers require integrations with existing systems (through API).

From our experience in bigger application development projects, most of the requirements (70-90%) can be covered by standard functionality, while the remaining (10-30%), is custom made with code. For IT departments, this means a significant reduction in the use of senior developers and related costs. Low-code does not replace programming but makes sure that standard functionality is met with standard tools so that technical resources are used where they are most needed.

Compose is used by The Norwegian Armed Forces, Norwegian Immigration Authority, and Norwegian Olympic Committee among others. Our customers have very different functional purposes, but their overall goals are the same: Improve efficiency and quality in internal and external operations through electronic data gathering, digital workflows, and process automation.

"*No company would build Microsoft Word every time they would write a letter, and the same should apply to application development.*"

Low-Code Application Development

WHEN IS IT BENEFICIAL TO USE?
Business processes change all the time, and the value of digital investments lies in long-term and flexible IT solutions. Compose is a powerful tool for digitization of forms, work processes, and case management. In this case, the platform is most beneficial for companies that aim to develop several employee and customer-facing applications.

Low-code is a fast and cost-efficient way to kickstart development and test business ideas. New application development, improvements and process automation become natural steps in the digitization process as the users become acquaintance with functions and low-code possibilities. Other key aspects of low-code platforms are simplified maintenance and scaling without additional costs.
Low-code technology enables collaboration between business and technical resources. When organizations go through digital transformation employees' responsibilities will also change accordingly. By using low-code platforms companies can take advantage of knowledge already existing within the organization for application development, rather than excessive use of consultants. Compose Software always provides solid training of our customers, to enable employees to digitize processes on their own. In this way, organizations can take back control of their digitization strategies.

One Platform for Digital Innovation in Public Sector

Key benefits of Compose

- Rapid application development for web and smartphones
- Increased delivery capacity (time to market)
- Minimizes the use of senior developers and reduces costs
- Increased flexibility for future adaptations and new application development

Build Excellent User Experiences, Achieve Higher Data Quality

Compose Forms Builder

Compose Forms Builder enables you to transform form-based processes into automated and efficient online services. Gather data from ten or thousands of respondents through electronic forms, surveys or applications. The form builder is packed with advanced functionality for data gathering, dressed in a user-friendly interface. Add question types, groups and alternatives with drag-and-drop tools. Use simple or complex conditions to validate input and give users a smooth user experience.

Form Elements

Forms Library	Mobile Views
Template & Version Control	Skin Customizer
Display Conditions	Language Module
Help Texts & Progress Tracker	Data Type Builder
Data Source Builder	Global Data Model
Validation Options	Publisher

Data Delivery Options

WEB SHARE BUILDER

EXPORT AGENT BUILDER

TEXT GENERATOR BUILDER

GENERIC SERVICE BUILDER

Digital Collaboration Across Organizational Functions & Levels

Compose Workflow Designer

A complete process designer and automation tool for managing simple and complex work processes. Design workflows with pre-defined activity elements in a BPMN-based model. The workflow designer is a powerful tool for collaboration across teams, levels and departments in larger organizations. Process innovation with a holistic organizational approach in terms of sharing, exchanging and reusing data has a high cost saving potential.

PDF generator — Reciept

Form Activity — Validation — Condition — File Export

Activity Elements

> **Form Activity**

> **PDF Activity**

> **Email**

> **Reciept**

> **Confirmation**

> **Validation**

> **Process Condition**

> **Pause**

> **File Transfer**

> **Generic Serivice**

> **Script**

> **Unique ID generator**

> **File transfer ID**

> **Connector**

Update, send and fetch data – Anywhere with Compose integrations.

Integration Examples

Interoperability with other systems is essential when delivering Low-Code Software. This is why our developers have worked hard to make integrations with Compose incredible easy! Compose integrations make updating, sending, deleting and fetching data painless and flexible. Below are some common examples:

PUBLIC REGISTERS **JIRA TASKS** **INTERNET OF THINGS** **CLOUD SERVICES**

GDPR **BLOCKCHAIN** **AI** **ARCHIVE**

E-SIGNATURES **PAYMENT** **PKI** **ERP**

Nordic Technology, Values & Results.

Norway scores high in international e-Government rankings. The last 5 years, user-centricity, digital participation and efficiency has been central to assure the sucess of national e-Government invesments.

HIGH RANK IN DIGITIZATION

Norway has long been active in using Information and Communication Technology (ICT) as an important tool for achieving gains in government efficiency, improving quality of public services and modernizing government. Norway enjoys a high position in international rankings related to digitization (*Read the* OECD *report here)*. Norway's efforts to become a leader in the use of ICT in government have mainly been supported by a high level of Internet penetration in the Norwegian society and an open collaboration between the Government and the private sector in terms of solutions and innovation in the ICT field.

DEVELOPED FOR RESULTS

Compose has served the Norwegian Government application market for 20 years, and have a strong focus on creating value in accordance with Government policies. Some of the main aspects of the most recent Norwegian Digital Agenda is a simpler everyday life and incresed productivity.

FACTS ABOUT NORWEGIAN GOVERNMENT STRUCTURES

Norway is divided into **19 administrative regions** called counties, and **428 municipalities.**
The counties form the primary first-level subdivisions of Norway and are further divided into municipalities. Among the county's responsibilities are county roads systems, public transportation, secondary education, public health, dental care, cultural heritage, culture, regional development, and land management.

Municipalities are the atomic unit of local government in Norway and are responsible for primary education (until 10th grade), outpatient health services, senior citizen services, unemployment and other social services, zoning, economic development, and municipal roads. Law enforcement and church services are provided at a national level.

Norway Digital Agenda 5 key areas:

1. User-centricity
2. ICT in innovation and productivity
3. Digital competance and participation
4. Efficient digitization of public administration
5. Privacy security and information security

>Read the Norwegian Digital Agenda

Compose
Customer Cases

Compose supports companies across several industries to reach their efficiency and productivity goals. Below you will find a few selected customer cases.

Ministry of Government Administration and Reform

When The Administration and Reform Department started the project Free Legal Aid/Free Legal Advice, Compose was selected as one of the partners (along with the Ministry of Justice and The Norwegian Bar Association).

The delivery included an advanced electronic form to manage application processes and case management pursuant to receiving legal aid. The application process was simplified for the end-users with pre-populated information from national registers (such as the tax department) based on login authentification. Time and cost consuming processes were automated and streamlined. Lawyers case processing time was reduced, which also improved the service level out to clients by enabling faster response to their applications.

The Norwegian Armed Forces

The Norwegian Armed Forces annually collects a large number of data from to surveys related to compulsory military service recruitment. They needed an enterprise feedback management system to handle the procedures, and meet strict regulations for sensitive data management.

The system also needed high usability and performance ability. ComposeToGo delivered Compose as standard platform for e-forms, in addition to reporting and analyzing tools for collected data. The Norwegian Armed forces also uses Compose for other user surveys and internal forms.

ExtraStiftelsen
Helse og Rehabilitering

Health and Rehabilitation

The foundation Health and Rehabilitation is authorized to operate and broadcast lottery on Norwegian television. The profit from the lottery is distributed to various NGO's efforts to improve physical and mental health in Norway. Since 1997 Health and Rehabilitation has given more the 2 billion Norwegian kroner to the cause. In order to receive funding, NGOs have to apply to qualify for funding.

Compose delivered the an online application system for managing Health & Rehabilitations funding requests. The delivery included electronic forms for registering NGO and applying for grants, with admin panel for applying organizations.

R

Office of the Auditor General

The Office of the Auditor General (OAG) is responsible to control that public resources and assets are used in accordance with the Parliament's decision, though auditing, monitoring, and guidance. In 2014, The Office of the Auditor General requested a solution for electronic surveys and an online whistleblower channel.

Compose was chosen based on the software's high uptime, security, and anonymity of collected data. The electronic whistleblower channel consists of an e-form for notifying the OAG about possible misconducts or other irregularities in the public administration. The channel helps OAG to obtain important information in a secure manner. The solution is encrypted from end to end and passed security testing from the Norwegian National Security Authority (NSM) regarding protecting user's anonymity. Compose is responsible for operating and maintenance of the solution.

KPMG

Document portal (KPMG)

KPMG's accountants used to receive documentation from customers on via USB-drives, email, mail or physical meetings. This partly paper-based and digital solution required many resources and was an unsafe and unstructured way to collect documentation. KPMGs most important criteria were to maintain a high-security level due to the management of business sensitive data.

The solution delivered by Compose included a customer document portal for efficient upload of files related to accounting (PBC) in specific folder structures with defined levels of access rights. KPMG also uses Compose for e-forms to sign assignment agreements with their customers and e-forms for reporting yearly financial statements for private kindergartens.

Norwegian Communications Authority

Norwegian Communications Authority (NKOM) collects data about the Norwegian market for public electronic communication networks and services (Ecom Market). NPT uses Compose to build comprehensive online questionnaires to obtain ecom statistics.

NPT required a solution with easy maintainance and changes. The delivery included form, process and case management tools to make NTPs reporting procedures more efficient and with higher data quality. The service is accessed from the national portal «Altinn» (Altinn is a web portal and a technical platform for submission of digital forms to the public sector). NPT has developed a variety of other forms with Compose for streamlining other internal and external processes

NKOM

Compose Software AS

About Compose Software

Compose Software is a leading Norwegian IT company delivering application development software to government and businesses. Todays' fast-changing environment and increasing demands from users of digitization and usability require flexible solutions.

We develop our software based on three main principles:

- Interoperability
- Transparency
- Efficiency

These pillars are essential for the company's vision to be the leading facilitator of efficient and sustainable e-Government. Compose's expertise lies in 20 years' experience serving the e-government market and digitization of law based procedures. We have a strong commitment to national and international research projects in the fields of standardization, legislation & ICT, metadata and usability.

E-Government & Compose Low-Code Platform