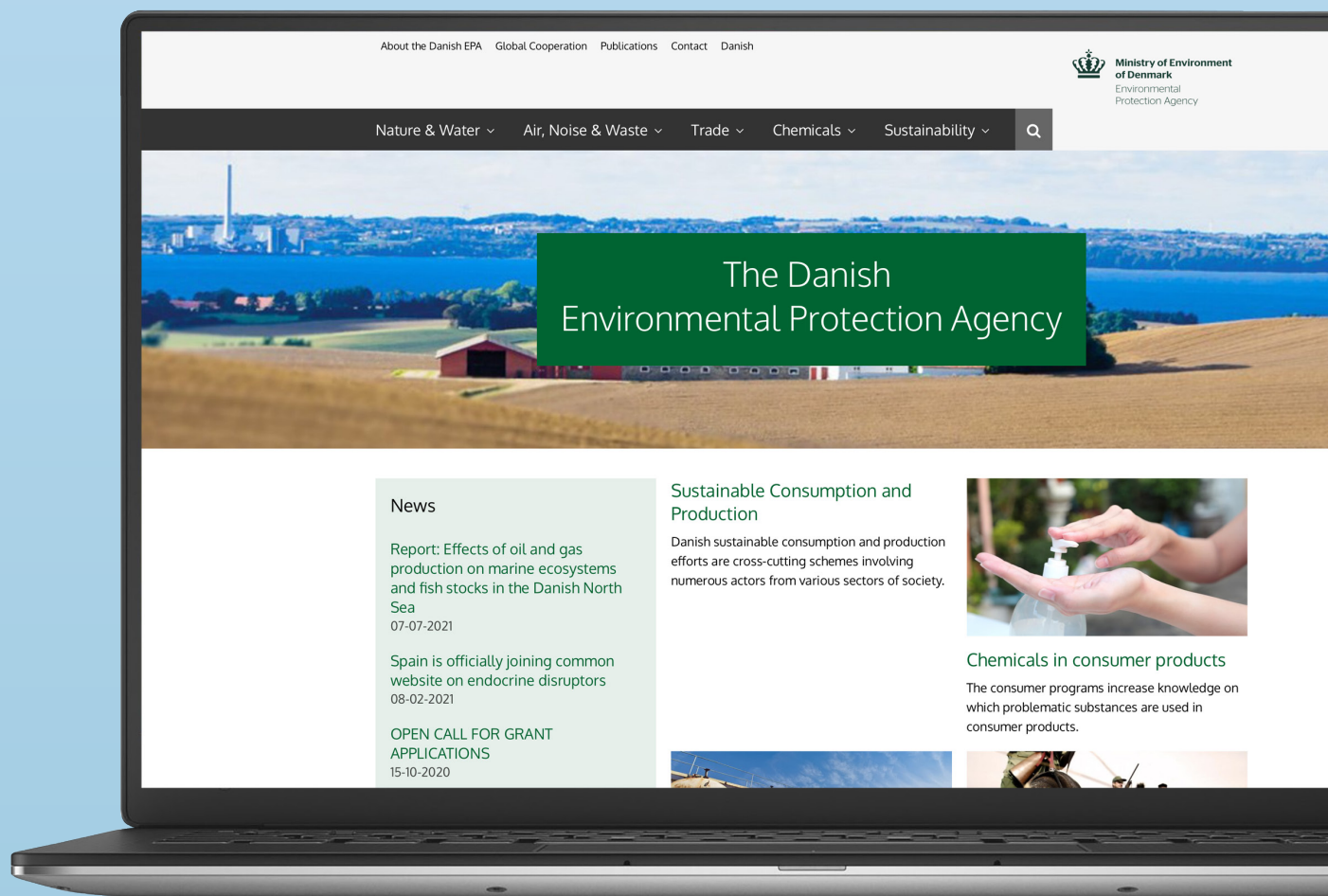


cView

One Agency, one Platform Digitization by Reuse



In this edition of cView

- The digital transformation of the Environmental Protection Agency: An F2 best-practice case
- Reusing software suggests a new direction for public digitization
- Three digitization cases: Grants, inspections, and rulings
- A digital administrative platform ready for reuse

Digitizing Mission Critical Processes at the EPA

In cooperation with the Danish Environmental Protection Agency, cBrain has created a new digital platform to support and carry out the EPA's administrative practice. This is a best-practice case of digitizing an entire agency using a single standard platform with end-to-end digital processes and a focus on automation. The result is an administration with a unique cohesion and a flow that makes it easier for both case managers and citizens and in which the political time-to-action is significantly reduced.

This transformation is the result of a unique implementation project based on best practices in the administration and the reuse of standard software. It shows how an agency's mission critical processes may be digitized in a fast and agile manner by using cloud and AI technologies – low cost, low risk.

And there is good news if you are in the same boat. The solution developed by cBrain in cooperation with the EPA is highly reusable and can be implemented directly at other agencies and authorities, so they too can benefit from cohesive, effective, and transparent case processes.

From Separate Case Processes to One Cohesive Agency

Based on 244 environmentally-specific and email-borne case processes, 150+ systems and applications, and a relocation of 440 employees to a “new” agency of 1.000 employees comprising 10 locations, the Environmental Protection Agency built a new administration model.

The point of departure for what turned into a unique digitization project was a clear strategy with concrete goals and strengths for the future administration.

A strategic take-off

The EPA's aim was to strengthen the administrative practice and streamline its operation while maintaining security and revitalizing the quality and speed of the administrative work. These parameters are vital to the agency and its credibility. Meeting a digitized agency should simplify

the experiences of employees, citizens, and companies alike.

A focus on concrete strengths

They defined a number of strengths as success criteria covering every “corner” of the agency; on the organizational level, on the process level, and in connection with IT and operations.

Organizational strengths

- Case support for management and department.
- Internal requests.
- Transparency for cases, deadlines, requests, management reporting, integration to the State BI.
- Employee perspective: Modern workplace.

Process-related strengths

- Better documentation of rulings.
- Case management QA and four-eyes principle support.
- Administrative overview for management and transparency for employees.

- Shared management information regarding case production.
- Streamlined case management and approval flow for all cases.
- Increased automation and streamlining.
- Consistent and systematic administration and documentation.
- Effective registration and fast communication regarding cases (e.g. chat).

IT and operational strengths

- Harmonization of the system portfolio and reduction of legacy systems.

This resulted in a new, single administrative platform where efficiency and speed provides a foundation and serve to fulfil the goals of the EPA. This unique platform is the subject of this edition of cView.

This is in fact a new digital administration paradigm for grants, inspections, and rulings, which can be implemented to great effect in many parts of the public sector.

DIGITIZATION STRATEGY OF THE EPA (EXCERPT)

New technological possibilities are changing the surroundings of the EPA and challenge the basis of our administration. The expectations of citizens, companies, other authorities and professional organizations are changing with the digital advancement. However, new technology also means new solution possibilities for the EPA. We need to utilize new technologies to manage the agency's administrative tasks in a more intelligent way. Digitization is not only about which IT systems we use every day, but also

about applying new technologies and data to handle our various administrative tasks in a more intelligent way in order to e.g. approach our customers (citizens, municipalities, companies, etc.).

The vision is described in our narrative. We want to be the agency in the middle that contributes to the Danish people's quality of life and experiences in nature, we want to be a portal of knowledge of nature and environment and utilize that knowledge in collaborations and

new contexts – including internationally. The execution of our authority must be innovative and data-driven, and we must excel in developing useful digital solutions to our customers – citizens, companies and other public authorities. We must play a central role in the “ecosystem” of environmental data. We must ensure the creation of value from these data and that we put them to active use in our administration and as a basis for our contribution to policy development.

How We Combined and Simplified 244 Processes Into One System

The Environmental Protection Agency and cBrain jointly developed the base models based on best practices, which served as the starting point for a new and innovative implementation model.

The implementation was comprised of two parallel tracks, one for the vertical case processes in the organization, one for the mission critical processes. These support structures are part of a cohesive platform replacing the several different systems that previously supported the agency's tasks.

Generic mission critical processes, three administrative areas

The transformative task aimed to support a number of mission critical processes at the EPA. Our collaboration began with a single process. Then we went on to the next. Soon it became clear how comprehensive a traditional approach would be, not only in relation to development and resources, but also financially. Due to the need of a simpler approach, focus shifted to increased reuse of software and generic processes. The key to the simpler approach was a successful classification of the many mission critical processes into three general administrative areas – grants, inspections, and rulings.

The shift from the classical approach to a new simpler one became the driving factor

behind two “process engines”, which we refer to as the skeleton model and the F2 Case Configurator, respectively.

The skeleton model

For each of the three administrative areas – grants, inspections, and rulings – a base model was developed based on the scrutinizing of three selected cases which we call “first-of-a-kind”; a digital standard based on administrative best practices which served as the basis of the subsequent roll-out.

Consequently, all processes were screened to ensure their suitability for digitization according to the skeleton model.

F2 Case Configurator for minor cases

It turned out that a group of minor processes with few rulings and a small volume didn't fit exactly into the skeleton model. They had other requirements, which resulted in the “F2 Case Configurator” with which the agency can configure a solution on their own – a simple and effective solution to roll out the simpler mission critical processes to the platform.

This allows the EPA to minimize spending on external resources and to retain ownership when rolling out their minor mission critical processes.

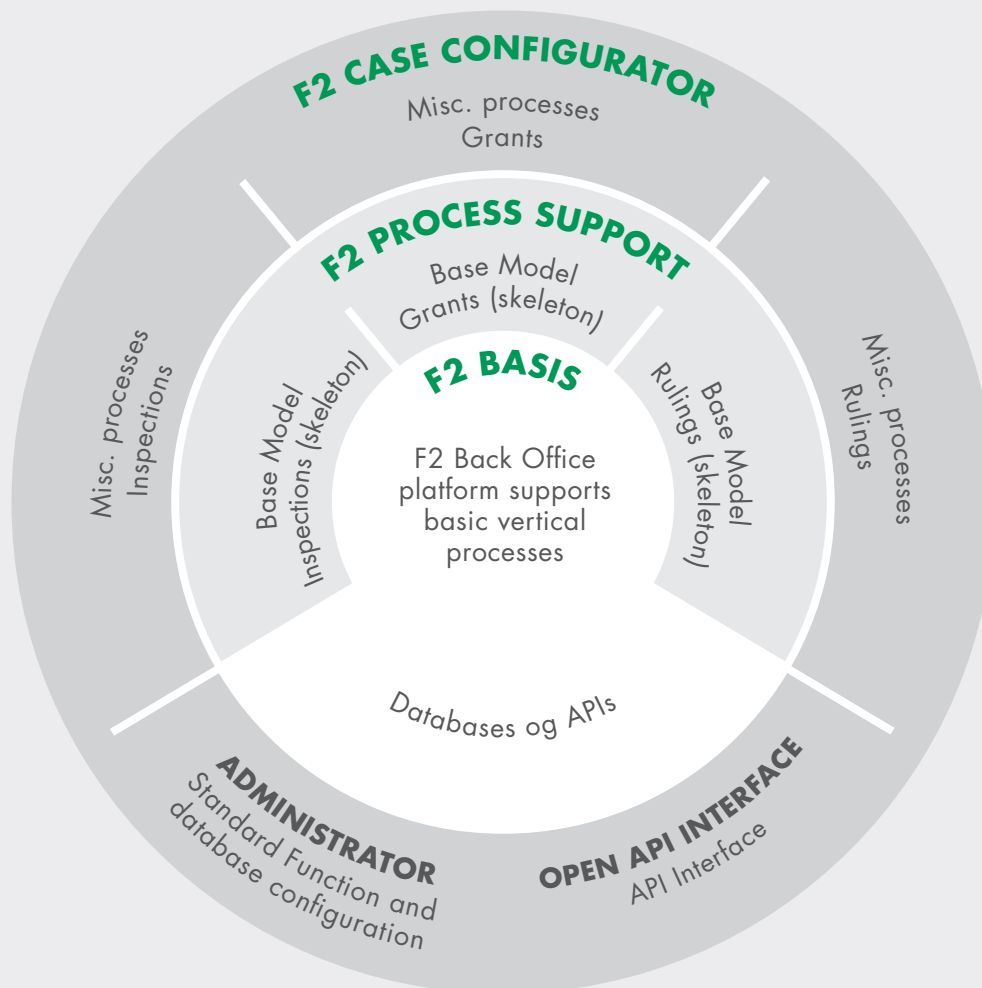
Reusing software leads to a unique implementation model

Over the course of this journey, we discovered a standard model for a simple and secure approach to digitization.

Central to this is the ability to define best practices with intent to incorporate a model for software reuse. This enables us to digitize all mission critical processes of an agency in a simple and agile manner with minimal risks.

The Environmental Protection Agency's Entire F2 Platform

Today the Environmental Protection Agency's F2 programme consists partly of F2 Process Support that digitally supports the agency's 244 mission critical processes, and partly of F2 Basis that comprises the use of F2 as a registration and workflow system for management cases.



F2 Basis supports the organization's vertical case processes. Cases for management, cases for the department, internal requests, registration, support for executive meetings, etc.

F2 Process Support and F2 Case Configurator

Two scenarios exist for a mission critical process. One is a base model for each of the three administrative areas from which a best-practice roll-out is performed. The other is the case configurator for minor mission critical processes/authority tasks.

Open API Interface

Finally, there is F2's Open REST API, which provides access to searches in F2, reading, importing, creating and updating cases, records, documents, notes, chats, approvals and subject data. Through the interface, the EPA can utilize all the data in F2 and apply it in other systems. Conversely, the EPA can update the F2 data through their other systems. F2's API ensures maximum reuse of data by exchanging it with the EPA's other solutions as well as national and joint public solutions.

Integrations

The implementation of integrations adheres to the joint public principles and patterns for integration and can be configured to ensure a high level of confidentiality, integrity and reliability when required. This means that data exchanges are robust and of a high quality. Examples of integration include: Navision Stat, CVR/CPR, GIS, e-Boks, etc.

Using a Portfolio Model to Roll Out Mission Critical Processes Equals A Fast Transformation

The Environmental Protection Agency’s roll-out is exceptional due to its portfolio approach in which all 244 business processes are prioritized according to importance and effect.

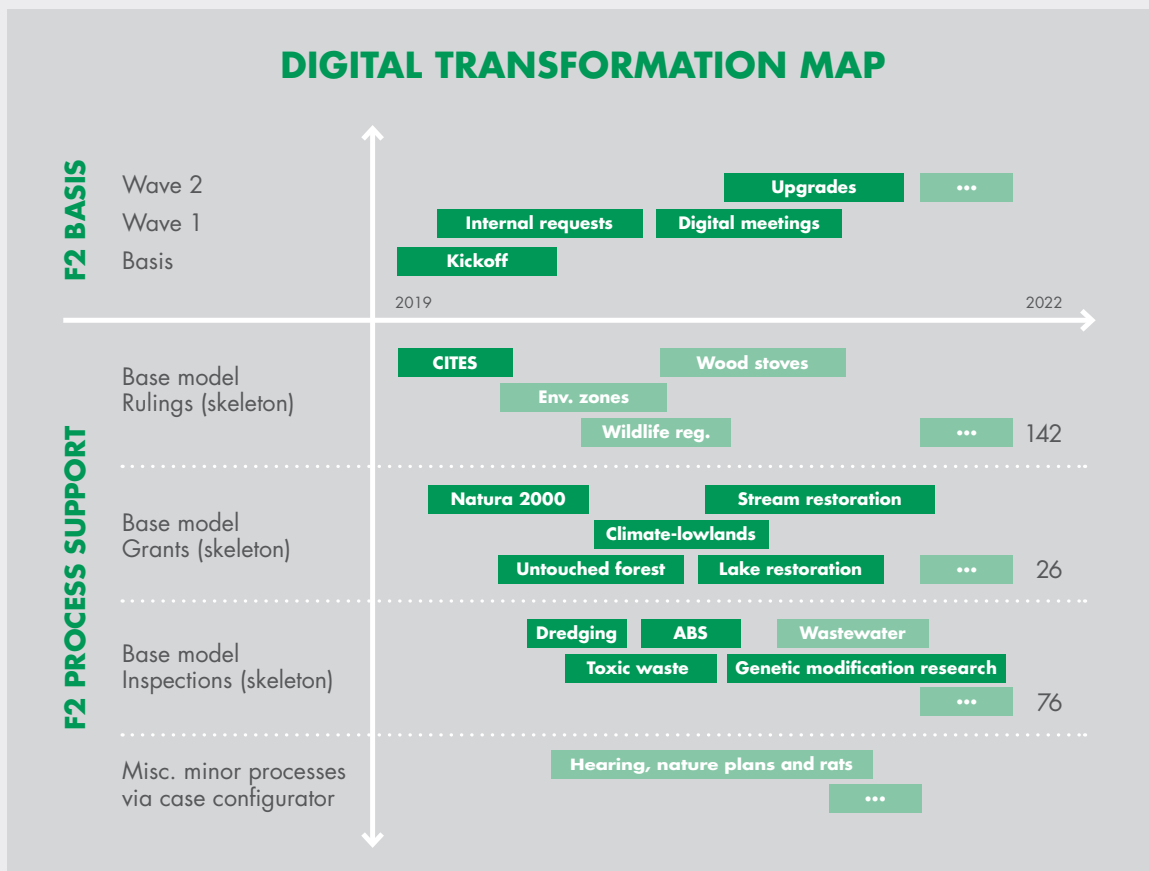
Reviewing the agency’s mission critical processes, we identified 142 rulings, 26 grants processes, and 76 different inspections. As mentioned, we also found a number of minor processes implemented by the agency on their own using the F2 Case Configurator.

Best practices from the base model are re-used during roll-out of the mission critical processes. This reduces implementation time and ensures consistency across the administrative areas.

The EPA’s Digital Transformation Map shows how the portfolio approach is

employed to serve as the basis of their roadmap. This approach means that rolling out new processes takes only a few days or weeks.

The following pages describe the three base models and the cases from which they are developed.



Digital Transformation Map

Model for organizing the EPA’s digital transformation using a portfolio approach.

Digital Base Model For Rulings

The largest administrative area in the Environmental Protection Agency's portfolio is rulings. This means cases where applicants request permits, certifications, approvals, etc. At the EPA, the first-of-a-kind case to serve as the foundation for best-practice rulings was the case of import/export permits for endangered species of wild flora and fauna according to the CITES convention.

Rulings cases are diverse, but subject to the same administrative law and thus essentially comprised of similar elements only in different contexts. This means that reusing software helps support a uniform best practice across case areas.

The digitized processing of rulings cases supports non-discriminatory treatment, hearings, the four-eyes principle, etc. Additionally, less time is spent on tasks such as case enquiries, documentation, and communication during the professional processing of cases. Handing over cases from one employee to another and creating a general case overview are also easier. At the EPA, a number of processes are subject to international regulations as well as documentation and reporting requirements. This increases the demand

of keeping track of the processes and case flows.

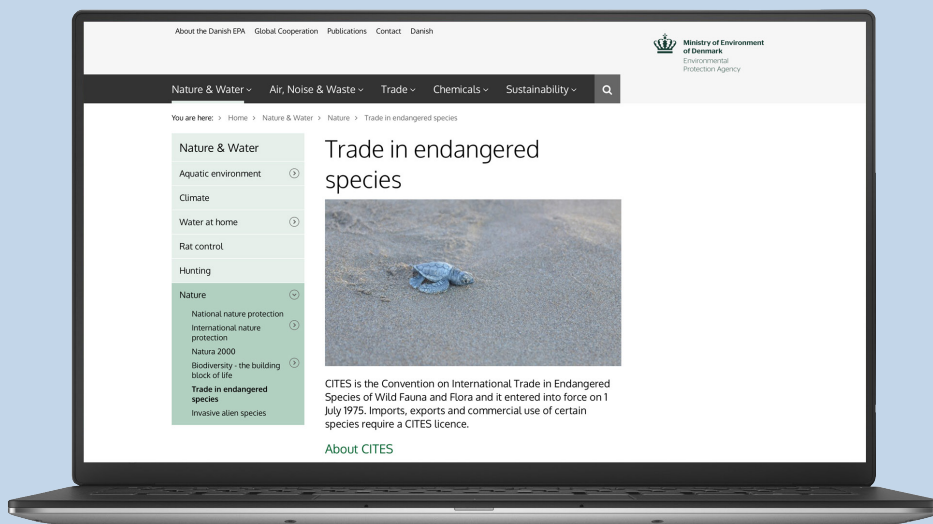
Yearly, the EPA rules in 6-700 cases according to the CITES convention, which regulates the trade with endangered species of flora and fauna. In six months, the case guide was end-to-end digitized in a single system with less return flows, a better overview, and significant improvements to efficiency.

The base model for rulings processes contains:

- Self-service elements to ensure all relevant information from citizens,

companies, and other authorities, e.g. whether fees are paid, are present at the initial phase of the case.

- Checklist in which all case guide steps are described and incorporated into the process, and which starts automatically when an application is received.
- Involvement of external hearing participants or control checks in external databases.
- Automatic communication to the applicant when the case has been processed.
- Dashboards for full access to information regarding number of cases pending on all levels of processing and so the entire case production.



CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments which works by subjecting international trade of selected species through a licensing (permits and certificates) system, agreed upon by the Convention.

The F2 solution is designed to replace paper-borne case management, using digital case management to support the case management process, and to prevent the creation of duplicate cases and reduce return flows to the applicants. In a CITES project, paper-borne case management is replaced by a self-service solution to quality assure applications and support case processing in F2. Automation of case creation,

hearing with applicant, and registration as well as an overview of the number of cases streamline the annual reporting to CITES. The online solution ensures that all necessary information for processing an application is available. Then, through add-ons to the F2 standard platform, applications are evaluated based on the detailed CITES regulation as F2 is connected to the Species+ database. The add-ons allow information from various sources for processing applications. A modular and scalable solution. A fully integrated software stack with database, self-service module, user and role access control, case management, records management, communication, management reporting, audit trails and integrations to national or international portals.

Benefits

The overall quality of data from the citizen is enhanced. This, in combination with automation and case management, ensures the quality and uniformity of the case processing. The solution provides an overview of case production and efficiency resulting in a shorter case processing time, including fewer applicant enquiries due to quality assurance in the self-service workflow. Furthermore, the solution comes with easier reporting options and transparency in the actual case management. Finally, lookup in Species+ means fewer applicant enquiries, which again results in a shorter case processing time. The citizen's experience is enhanced by automation, and transparency is the citizen's guarantee of getting a fair and efficient treatment.

Base Model For Grants

Grants management is the second of the three administrative areas in the Environmental Protection Agency's portfolio. The area comprises 26 grants processes. Its base model was established and configured from the extensive "Joint habitats in Natura 2000 areas" scheme.

According to the Agency for Public Finance and Management, 39 state

authorities manage 400+ funds and DKK 13.5 billion, but only 15% of funds are supported by IT systems that guide the case process from application to payment. The EPA's skeleton model for grants can be applied to any grant area.

The base model for grants contains:

- A fully automated application process including self-service (often with multiple applicants together), integration with GIS, and automatic case creation.
- Case management according to a standardized checklist, automated sorting and prioritising, and direct linking to grants payment cases with separated functions according to the six-eyes principle to prevent fraud and errors.
- An automatic funds case for each application round to create an overview and prioritize correctly.
- Direct linking to grants payment cases.
- Dashboard to create an overview of the case management and for resource administration for employees and executives.

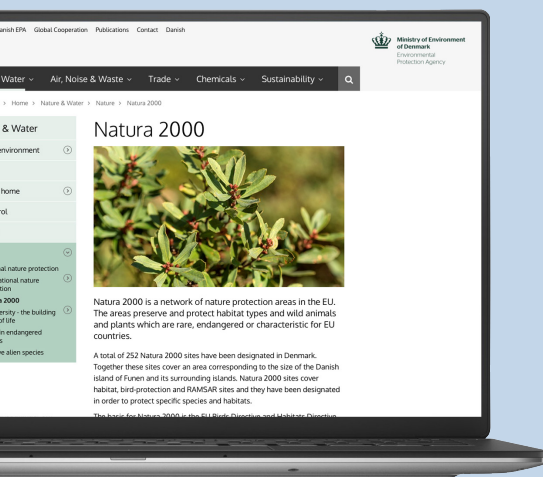
Fully integrated with the payment system Navision Stat, including close collabora-

tion with internal finance control. Login through the login solution NemID.

The result is a grants management that is secure, fast, customer-oriented and effective, and in which the case processing time is reduced. A solution with GDPR compliance and a minimum of error and risk of fraud in a simple, contemporary application process leading to applications of a higher quality.

"One of the really clever functions is that I can create a hearing from within the case guide. I can add a deadline for the hearing answer and enter information which will be merged with a hearing letter that is sent directly to the hearing recipient. The hearing letter is added to the same case and contains all the information I entered in the case guide. The letter also contains a link to the hearing portal from which the applicant can enter their hearing answer directly. The hearing answer then appears in F2 and is added to the case guide on a task called 'Hearing answer.'"

Source: Former case manager responsible for grants.



SUBSIDIES FOR JOINT HABITATS, NATURA 2000

Natura 2000 is the name of a network of nature protection areas in the EU. The areas preserve and protect habitat types and wild animals and plants which are rare, endangered or characteristic for EU countries. Within the appointed Natura 2000 areas certain guidelines dictate the processing of plans and projects, including permit applications, etc., which might affect Natura 2000 areas, in order to protect species of flora and fauna. Monitoring and reporting on the conditions of the area is also required.

This scheme was the first to be configured in F2 Grant Administration and served as the foundation for the grants base model. For the citizen, a Natura 2000 grant is divided into two phases. First, a citizen submits an application and then the citizen requests a payment. The Natura 2000 solution is supported in F2 by three fundamental processes: Approval, Payout, and Funds Management. Applications go through

a number of steps, including screening, sorting, and prioritization, which result in approval or rejection for each case. The funds case is updated automatically during the process to let the authority maintain an overview of all applications and approvals. When an application is approved, requests and payouts become available. These are also accessed through the website, which guides the citizen through the processes and creates a payout case. The case management entails registration, surveying, and de minimis checks after which a payout is authorized and greenlighted for release in Navision Stat. The funds case is updated simultaneously to provide an overview and status. Applicants are individual plotowners, and the number of applications are 100+. They apply through a self-service solution on the EPA's website where the project area is marked in the EPA's GIS and submitted. An EPA case manager receives the application in an F2 case processing module which au-

tomatically creates a case that includes the application and the marked area submitted to GIS. Funds are then transferred to the citizen's bank account.

Benefits

The funds case entails the accounting of the overall funding and the option of balancing both individual cases and transactions. The funds case also documents any communication with Navision Stat. Reduced time-to-action – quick setup and customization of software support based on the grants base model in which political requests are accommodated quickly, from decision to execution. The solution is presented in a simple manner to help the applicants. Administration is improved, cases are monitored, and the EPA has a general overview (effects, areas, economy). Sorting applications by a points system and automatic funds reservation in Navision Stat help streamline case management.

Base Model for Inspections

Inspection is the third and last administrative area of the Environmental Protection Agency's base model. Working with the mission critical processes identified a total of 76 different inspection tasks. The inspection of dredging Danish harbours was selected as the first-of-a-kind case for the inspection skeleton model.

At the EPA, a thoroughly planned and effective inspection is central to the prevention of environmental problems. Environmental inspection is important from both an eco-financial perspective and to the citizens' and companies' experience of enforcement of the law.

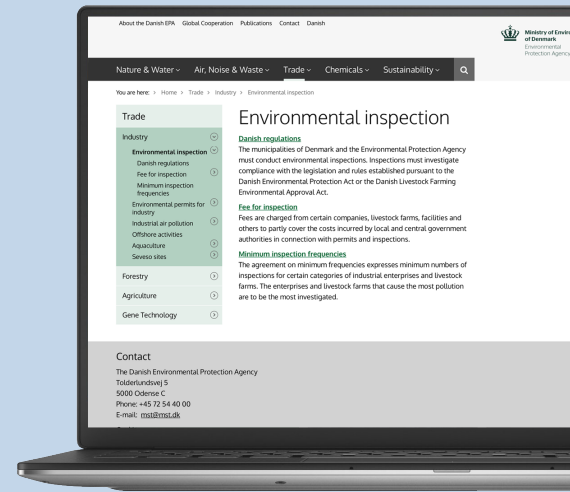
Inspection duties comprise the inspection of substances and products as well as of various labelling and certification systems, experimental releases, etc. However, the inspection base model remains the same, and a shared skeleton for digitization of inspections helps create uniformity, overview, and effective case processes.

The base model for inspections contains:

- Screening of cases.
- Filing of inspections (physical or digital).
- Reporting.
- Hearing.
- Automated communication.
- Enforcement of the law, if necessary.
- Scheme cases providing an overview.

When linking directly to issued permits is possible, as in the dredging scheme, further benefits are made possible because everything is collected on a shared platform. These benefits are obvious to the employees:

"The clever thing is, when a holder of a dredging permit answers our request for an annual dredging permit report, information regarding permit and dredging is automatically added to the case, and a receipt is sent automatically. Before we had a lot of request letters to send, but now I can create around 200 cases and send 200 request letters to permit holders with a single click.



This has saved us a lot of time. We can also create a list of annual reports and answers we have received. Before we had to look through all 200 cases and type data into an Excel sheet. Now the scheme case helps us."

Source: Case manager, Business unit.

DREDGING INSPECTION OF DANISH HARBOURS

Dredging is the process of cleaning and deepening hundreds of Danish harbours and channels, which is a necessary arrangement for sea transport and harbour operation. Dredging means digging up the seabed in harbours and channels and dumping it in the ocean. The dumping always happens in a designated dredging area approved by the EPA. Relocating seabed materials requires a permit from the EPA, which is done using the login solution NemID/MitID.

F2 is a complete solution which covers everything from inspection applications to active dredging permits. A number of self-service solutions have been configured, some related to the application process, others to dredging permit inspections. The EPA also employs a number of F2 case types that communicate with each other. Finally there is the scheme case, which helps provide an overview of both active

dredging permits and dredging areas, and which helps when sending letters and creating cases.

Applications are sent using a self-service solution on the EPA website. Here the applicant is guided through each step and what information is needed to process the application. The application is sent directly to the case manager's dredging inbox, a case is attached, and a receipt sent back to the applicant. If the application is approved, the case becomes a dredging area case. This case type also contains several steps to help guide the case manager. The dredging case provides an overview of the dredging area's capacity, which is a prerequisite for the case manager's approval of the application.

Benefits

A scheme case helps the case manager send letters and maintain the general over-

view of the case flow. A report is created for active permits. From the case, letters are sent regarding annual reports and the creation of related cases. When the request for an annual report has been answered, the information the EPA receives is automatically added to the case and a receipt is automatically sent. Before, the case manager had to send all letters manually – now, around letters 200 regarding dredging cases are sent just by clicking a button.

Additionally, it is possible to create a list of all annual reports and replies. Before, a case manager had to check each of the 200 cases and manually type data into an Excel sheet. This is now facilitated by the scheme case.

The Environmental Protection Agency Has Shown the Way and Created a Digital Platform – Ready for Reuse by Other Authorities

The last two years, the EPA has worked towards creating an effective digital platform for administration. Their fundamental development resulted in a digital platform for administration that is available for reuse by other authorities – without having to start from scratch.

In this edition of cView we have described our collaboration with the EPA on a unique digitization project which unified and simplified the agency's 244 mission critical processes into a single system, rolled out bit by bit using an agile implementation model. Today the EPA uses one cohesive platform to achieve their professional goals. One single system is used for managing a ruling concerning the import of a rare orchid, for application for a permit to dredge the seabed, and for paying out grants for plotowners. Based on a shared administrative foundation and using time-saving automation.

The EPA's digital administrative platform – a persuasive demonstration of benefits

Throughout the project the EPA kept their focus on the potential benefits. They

have kindly agreed to let us share their results as to inspire other authorities. The benefit realization of the F2 programme is extensive and can be evaluated using two dimensions: financial and qualitative benefits with a common denominator of effective administration.

The drivers of the streamlined case management include:

- Enhanced quality of received applications regarding permits, grants, etc., using standardized filing.
- Automatic case creation, registration, and letters of receipts.
- Streamlined communication with citizens/companies using e-Boks and auto-generated letters.
- Improved control information across cases and case managers for a more effective resource administration.

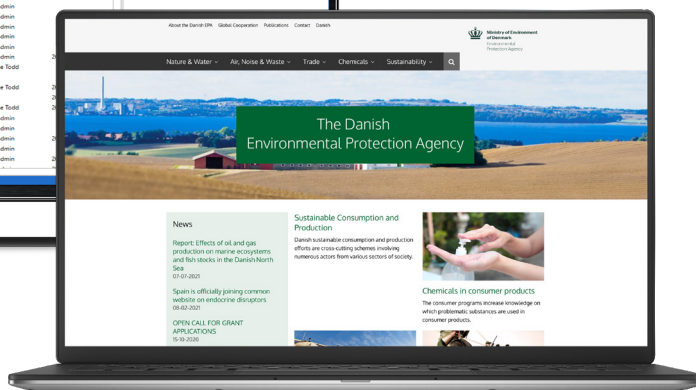
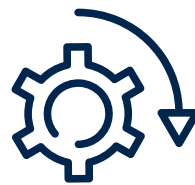
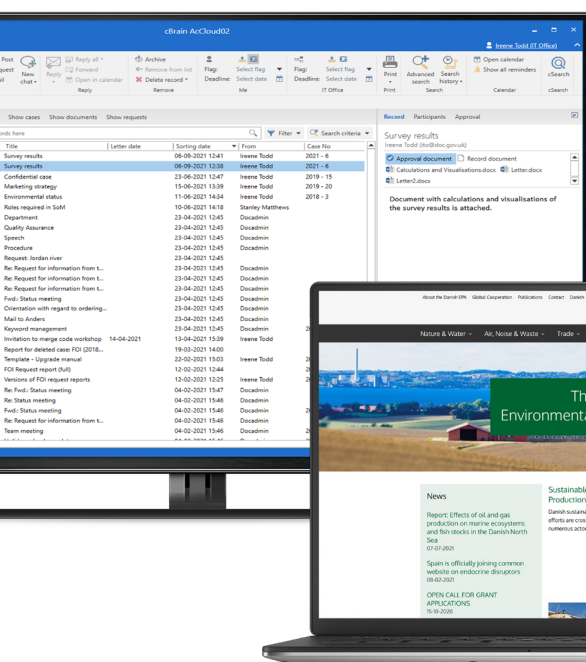
Financial benefits

The financial benefits consist partly of reduced costs of case management, which has become more automatic and standardized and thus more effective, and partly of reduced operational costs due to the shutting down of old stand-alone systems as mission critical processes are collected on the F2 platform. Already a number of operational costs have been realized as several systems are phased out, e.g. Teamshare, Workzone, and the system for wildlife regulation applications (Vil-Reg).

Qualitative benefits – secure and effective administration

An agency with monitoring and administrative responsibilities, the EPA has a significant interest in the security of their many mission critical processes. The F2 programme contributes to this by supporting a number of qualitative benefits, such as:

- Support and documentation of each case flow.
- Support of reviews in accordance with the four-eyes principle and active use of administrative basis.
- Increased transparency and better basis for control.
- Reduced complexity and increased security.



The Environmental Protection Agency made an overview of the primary qualitative benefits from the perspective of the stakeholders. This illustrates the many benefits of the project for the agency’s stakeholders and actors.

An overview of the primary benefits of the F2 digitization platform

Stakeholders	Previous situation	Expected benefits	Benefit reasons	Actual benefits
Politicians	Lengthy process from political decision to effective implementation	Quick and effective administration	Development of a generic case management flow	Implementation of political decisions in less than three months
Applicants, e.g. citizens, companies, municipalities, etc.	Application process was complicated by multiple communication channels. Applications were sent by email	Simplicity and clarity	NemLogin solution, filing module, and communication by using e-Boks	Simple setup. “MST deserves praise for their application module” (statement from a municipality)
Directors and management	Old, email-borne processes and Excel-based overview	Improved management information	Dashboards and extractions of case processing times	Automatic case overview
	System didn’t fully support the prevention of errors and fraud	Secure administration	Automatic separation of functions	Fraud security, Implementation of best practices
	Case management often relied on the case manager’s personal experience. Risk of irregular administration	Uniform administration according to best practices	Case guides with checklists and case steps to ensure a uniform approach	Standardized case management based on best practices
	Poor overview of case placement and number of cases	Better overview and lighter workload	Dashboard Extractions using cPort	Overview of cases
	Many different systems were required	Simpler workflows for employees	Case guides with checklists based on an administrative foundation	Uniform case management based on best practices
Employees	Missing overview of cases and their status	Overview of cases	Case guides and dashboards	Overview of number of cases and their status
	Several different systems and platforms were required. Risk of irregular practice between employees	Simpler workflows for employees	Case guides with checklists based on an administrative foundation	Uniform case management based on best practices

Source: Environmental Protection Agency, 2021

The EPA project demonstrates that reusing software helps facilitate a simple and effective digital transformation. A unique discovery was that the mission critical processes at the EPA were so generic that all of them could be simplified into only three basic processes.

This is good news because it suggests that any authority facing digitization can skip the developing phase and do a “copy-and-adapt” of the three base models developed at the EPA – and with this, potentially reap the same benefits in relatively short time.

That is groundbreaking. Groundbreakingly simple.

And it suggests a brand new road to public digitization.

F2

Groundbreaking Technology. Groundbreakingly Simple

One platform, endless solutions

Using F2 we have achieved what many thought impossible: a fully integrated platform with every function needed by the authority in their administration. Standard software designed and developed in close collaboration with Danish authorities. Ready for operation without countless hours of consulting for custom programming.

F2 is able to support and automate all types of mission critical processes, minor cases as well as large, complex case areas such as administration, inspections, and rulings. This is made possible by F2's special built-in process engine which can be configured to support each step of a case from self-service and registration to management reporting. And when your needs change, F2 can be configured to change with you – it's a solution that will never be obsolete.

**That is groundbreaking.
And groundbreakingly simple.**

cView

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