

DUCHARME DYNAMIC E-SOLUTIONS PUBLIC SECTOR FINANCIAL MANAGEMENT TOOLS, APPS & SOLUTIONS

For longer than a decade, Ducharme has been providing practical support to the public sector within the financial management, accounting and governance spheres.

We have developed various e-solutions to assist these entities with the implementation of various financial management processes, allowing for more efficiencies and cost-savings.

Our Ducharme Dynamic e-solutions suite provides for digital and electronic solutions and support, which include:

- mobile applications,
- stand-alone desktop solutions
- online & cloud-based applications

The aim of these e-solutions is to allow for more effective and efficient ways of performing various management and accounting processes such as:

- Mobile **asset verification** instead of paper listings for verification
- Automation of mapped **financial & interim financial statements** which updates latest accounting data from the trial balances.
- **E-learning** in support of focused and tailored training
- **Data collation and analysis** of revenue data for insight to assist with revenue management
- Solutions to assist with understanding the allocation and impact of the new **mSCOA based accounting and budget information**.

Helping you put theory into practice

Please find more high-level overviews from our various e-solutions, which we trust will help you to put finance theory into practice.

Should you require more information on the technical aspects of these solutions, or how these e-solutions can be applied to assist you and your entity on other implementation or compliance challenges, kindly give us a call or drop us an email.



#	Ducharme E-Solution	Key Contact for more information
1	Dynamic Verify in support of moveable asset verification and field verification)	James Such 076 402 6242 jsuch@ducharmeconsulting.co.za
2	Dynamic AFS in support of automation and mapping of Financial Statement & other report preparation	Francois Conradie CA (SA) 082 926 1780 fconradie@ducharmeconsulting.co.za
3	Dynamic Learning: E-learning capacity building support	Daniel Erasmus CA (SA) 072 258 1245 derasmus@ducharmeconsulting.co.za
4	Dynamic Revenue (Property data linking & Field verification) in support of Revenue completeness assessments linked exception reporting	Philip Malan MSc MTRP 079 779 7774 pmalan@ducharmeconsulting.co.za
5	Dynamic mSCOA viewer & mSCOA Budget tool	Sean Collins CA (SA) 082 373 4428 scollins@ducharmeconsulting.co.za

1. MOVEABLE ASSET VERIFICATION

Ducharme Dynamic Verify is our Moveable Asset Verification app. It is a web-based 3G wireless technology and enables entities to capture and verify movable asset 'on the go' as part of their asset management processes.

The tool captures various information sets, for identification, to assess performance and for accountability.

Identification information:

- **Asset details & specifications** (make, model, colour, material, Asset number; description; serial number)
- A **photograph** of each verified asset
- **GPS reading** (reading to comply with GIS system reading requirements)
- Asset **location** details (Physical address of the asset / street name and number).

Performance information:

Verified asset **condition assessment**, impacting:

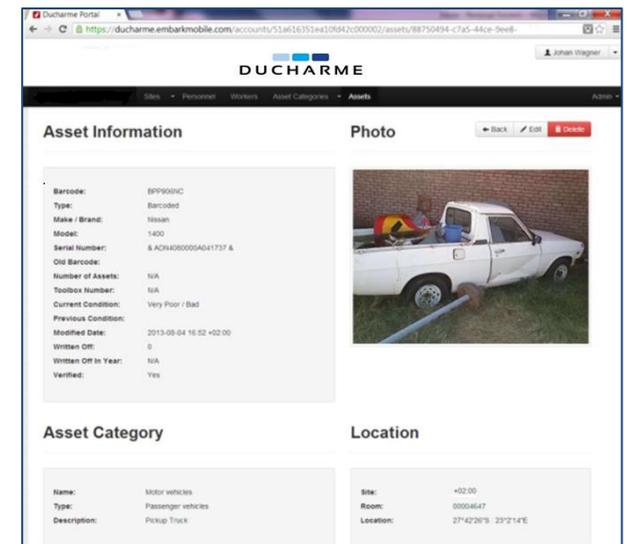
- Expected Useful Lives (EULs);
- remaining useful lives (RULs);
- carrying value of assets; and
- Asset impairment.

Accountability information:

- **Allocation** to department
- **Sign-off** by custodian of asset

The **tool** allows for time and cost efficient processes, through:

- Verification of assets' existence, location and condition through the use of **Android / iOS smartphones / tablets**
- Captures **asset details** e.g. dimensions, material, make, model, serial & registration numbers.
- Captures **asset photograph** taken and in real-time forwarded to the project controller who will review the captured information with regard to correctness of the description and the condition assessment of the item
- Captures **asset location** i.e. the room and building wherein it is located, the area, street address and GPS reading were possible can be captured.
- Pre-loaded and tailored **asset hierarchy** and component
- Real-time information whereby verification results are immediately transferred electronically to web-portal for review.
- **Detailed reporting** from the system on verification results to enable management of verification process. Reports can export to Excel, with a web hyperlink to the photo.
- **Minimized human error** through pre-programmed controls;
- Low costs pertaining to **annual license fee** structure. Asset databases and server needs can be scaled according number of assets held by entity.
- **Paperless system** with data input integrity checks to ensure accuracy of data
- **Inventory listings** can be generated for approval and electronic sign-off by asset holders as a true reflection of the status of capital assets under their control at that specific point in time.



2 FINANCIAL STATEMENT REPORTING

The **Ducharme Dynamic AFS reporting tool** allows for the upload of electronic financial details in a flat file, which is then converted and populated into a specific reporting framework. Usage examples include the conversion of an electronic year-end trial balance into a set of reporting formats, such as used for Annual Financial Statements, month-end trial balances reporting, interim financial statements and more.

Our AFS Reporting Tool, which includes the latest changes applicable to the GRAP and IPSAS accounting reporting frameworks, accounting policies and NT requirements, provides for account balances and transactions to be populated from the mapped trial balance based on the applicable Chart of Accounts / Vote Structure.

The **mapped structure and composition** are based on the respective votes included for the Financial Performance (revenue, expenditure, appropriations, disposal of assets) or Financial Position Votes (non-current assets & liabilities, community wealth, suspense votes, old vote numbers, CAPEX totals for IYM, etc.) Each transaction and balance category will be further allocated to a sub-category item, item type, movement, etc. It also provides for the rollover of balances from the previous years for comparative information.

An **example** of a mapped balance from a vote:

- Non-current assets:
 - Property Plant & Equipment
 - Land And Buildings
 - Historical Cost: Completed
 - Balance Beginning of Year

The tool also provides for **pro-forma accounting adjustments** to be included the AFS which are not reflected in the TB, with separate reconciliation thereto. These include debtors with credit balances, contingent liabilities and / or assets.

Once a mapped set of AFS has been prepared, **changes** can also still be made in the **underlying accounting systems** (due to journals or further processing). These changes can then be easily updated and reconciled in the automated AFS to reflect the updated position. Computer check-balances are in place to identify unmapped details.

Due to the integrated data linking from the TB to the mapped AFS, **detailed working papers and reports** can be run. These working papers can be used as lead sheets for audit purposes to be included in the audit files, matching back to the TB.

Other reports include:

Unauthorised expenditure comparison reports, based on actual and budget information included in the AFS.

Detailed reports per **cost centre vote number** reports (cost centre per Department).

Other reports run include the automated population of the in-year reporting, cash flows, with details included of previous years' audited outcomes, comparison to the original and adjusted budgets, as well as the MTREF information.

Editable output As the tool runs in Visual Basic and read within the excel file format, additional information can be added and updated with new requirements.

Annual reporting update With no annual license fees payable, entities can update their reporting tools themselves at no cost. We can provide ad hoc support to update these to their latest reporting requirements.

DUCHARME AFS REPORTING TOOL

SETUP PROCEDURES	OPERATIONAL PROCEDURES	OPERATIONAL REPORTING
Municipal Information	Upload Trial Balance	Print Working Papers
Edit Parameters	View Trial Balance	Unauthorised Expenditure
Upload Vote Structure	GRAP Adjustments	FINANCIAL REPORTING
Define Upload Exceptions	Rollover Balances	Financial Position
Map Municipal Votes		Financial Performance
Organisational Structure		Cash Flow

3. E-LEARNING SOLUTION

www.ducharme.online

The Ducharme Dynamic Learning's Online platform offers entities the opportunity to build capacity in Financial Reporting without having to leave the office for face-to-face training sessions. Our online courses can be accessed anywhere, anytime when it is convenient and allows for mobile access using a laptop, tablet or a smartphone, which is connected to the internet. This includes:

- facilitated overviews, in the form of recorded videos, giving delegates a comprehensive overview of the update topics,
- course notes and Ducharme articles, &
- a short online assessment by which delegates can check their understanding of the topics covered

Theory as foundation: Our learning approach is that the theory provides the building blocks upon which we add the practical discussions for the day-to-day implementation thereof.

Structured Learning: Our e-learning follows a hands-on approach, where a set time is provided for course completion. This is to guide delegates to progress in their learning, instead of a continuous postponement thereof.

E-Learning allows for material and knowledge to be made accessible for learning at your own pace, in your environment of choice and at any time in your busy schedule.

More effective: e-Learning allows for time & costs to be managed more effectively. This is through reduction in travel time, venue and accommodation costs and related administration.

Our platform allows for access to learning through a laptop, tablet or a smartphone which is connected to the internet.

CPD: Our e-learning also allows for Continuous Professional Development (CPD) which can also be used as part of professional bodies' requirement for verifiable CPD hours

Progress tracking and monitoring Once a learner is enrolled to the E-learning program it is encouraged that the learner plans the training time to ensure success. This routine also instils an inherent working discipline which is required in all entities. For bulk entity registrations, we will provide regular progress report to your project manager which will reflect the modules that have been completed and the result they achieved for their assessment. We will also send out emails generated from the platform to remind participants about the deadline of a module/course, if so required.

Tailored technical support From corporate training support provided over the years, we are aware of additional support and focus areas required by clients. We can provide ad hoc support to roll-out and facilitate specific training sessions per entity as required. These could include course tailoring based on the latest AGSA management letter issues or specific technical issues.

E-LEARNING COURSES AVAILABLE:

Our current e-learning programmes include:

GRAP overview & Update (4 nominal hours)

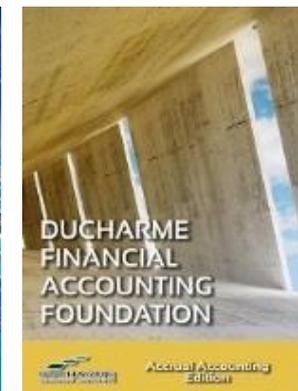
High-level overview of the GRAP framework, new and amended standards, together frequently asked questions.

Comprehensive GRAP / IPSAS (80 -100 nominal hours)

The objective of this course is to provide an overview & high-level discussions on the GRAP / IPSAS and recent developments and changes in the framework.

Foundation Accrual Accounting (30 - 45 hours)

The course objective is to develop knowledge and understanding of the principles and concepts of financial accounting and technical proficiency in the use of double-entry accounting techniques including the preparation of basic financial statements.



4. MUNICIPAL PROPERTY DATA LINKING & REVENUE REPORTING SYSTEM

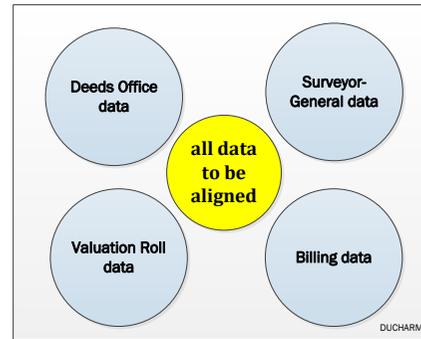
The **Ducharme Dynamic Revenue solution** is an online system to assist municipalities and other public sector entities with the **completeness** of their revenue base and the **accuracy** of information thereof.

The web-based solution **integrates** and **overlays property & revenue data sets** to ensure completeness of land parcels (**Surveyor-General's land parcel data** inside the municipal cadaster linked with **Deeds data, the consumer billing database** and **valuation roll**).

This integrated solution is to assist entities to ensure **all billable revenue is billed** (though which service delivery can be supported through effective billing) as well as general management support, especially in consideration of audit disclaimers issued by the AGSA on the incompleteness of revenue.

In support of the **continuous revenue management**, the value of the integrated data set is the ability to

- **validate datasets** (internal vs external data);
- Provide summaries, mismatch and **exception reports** for investigation and analysis;
- To provide **real-time data** and **gap analysis** reports for investigation (with full audit trail)
- Allows for an **incremental update** of the various datasets (up to date and trackable).



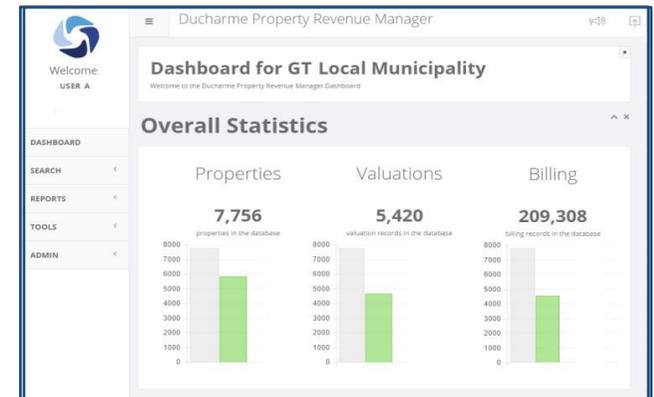
Our support and platform solution follows a proven methodology that has been used on several of our Revenue management projects in the past. Our focus is on providing accurate and up-to-date information to allow you as organization to make informed decisions.

We can assist municipalities, at a fraction of the cost of manual processes, with an assessment of your current municipal revenue datasets where we will **link your Property Data** (Deeds and Surveyor General Data), Billing and Valuation Information and provide you with the following **Exception Reports**:

1. Properties in your municipal area but **NOT LINKED** to cadastral information
2. Properties with **NO VALUATION** records
3. Properties with **NO BILLING** records
4. Properties with **PREPAID** meters
5. Properties **NOT BEING BILLED** for **WATER**
6. Properties **NOT BEING BILLED** for **ELECTRICITY**
7. Properties with **INDIGENT** records
8. Valuation records **NOT LINKED** to a Property
9. Prepaid **METERS** in database **NOT LINKED** to a Property

The online system also provides for:

- **Live Deeds Office Searching**, which is linked to the Deeds Office, where deeds can be purchased on an ad hoc basis.
- All datasets are **GIS enabled & spatially mapped** through our mapping system to assist with visualisation of the data;
- It has **multi-user access** with rights settings,
- **Complete Audit-Trail** of ALL Transactions and Changes.



4.2 REVENUE FIELD VERIFICATION APP

Our **Ducharme Dynamic Field Verification** app allows for the update of the property and ownership information through physical confirmation and visits at the properties. These include

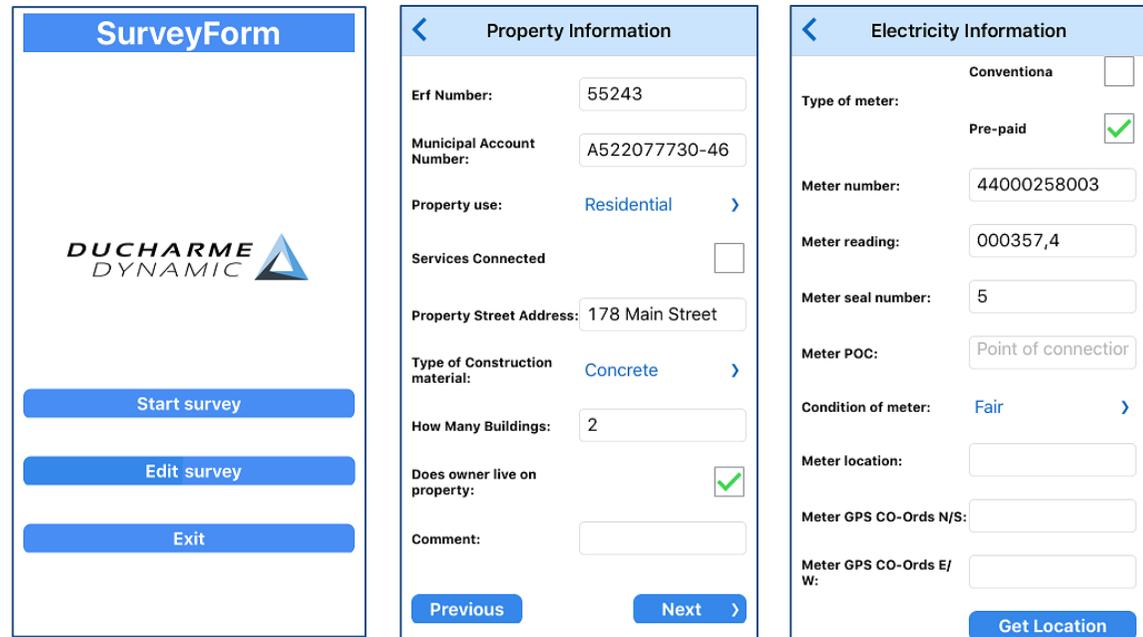
- Personal information (owner / tenant)
- Indigent data support
- Meter audit support
- Property information

The **annual license** for the app allows for unlimited users to upload and verify municipality property and consumer data in the field. This is more effective than paper based sheets as the information is synced electronically and allows for upload of photos. The data can then be linked and reviewed off-site by the internal team at the municipality for upload into the systems.

This allows municipal staff and interns to capture and verify the various data sets in the field. Additional ad hoc support can be provided, such as for:

- annual verification runs, and
- data cleansing projects.

The data is then accessible by the municipality in electronic format to update their respective datasets, from which the base data was uploaded from.



The image shows three screenshots of the SurveyForm app interface:

- SurveyForm:** A screen with the DUCHARME DYNAMIC logo and three blue buttons: "Start survey", "Edit survey", and "Exit".
- Property Information:** A form with fields for:
 - Erf Number: 55243
 - Municipal Account Number: A522077730-46
 - Property use: Residential
 - Services Connected:
 - Property Street Address: 178 Main Street
 - Type of Construction material: Concrete
 - How Many Buildings: 2
 - Does owner live on property:
 - Comment: (empty field)
 Navigation buttons: "Previous" and "Next".
- Electricity Information:** A form with fields for:
 - Type of meter:
 - Conventional:
 - Pre-paid:
 - Meter number: 44000258003
 - Meter reading: 000357,4
 - Meter seal number: 5
 - Meter POC: Point of connector
 - Condition of meter: Fair
 - Meter location: (empty field)
 - Meter GPS CO-Ords N/S: (empty field)
 - Meter GPS CO-Ords E/W: (empty field)
 Navigation button: "Get Location".

5.1. MSCOA VIEWER

We have developed an **mSCOA viewer** to assist municipalities in managing and simplifying the understanding of mSCOA segments.

With the actual mSCOA Chart being just under 85,000 rows, and hence difficult to interpret and view as a whole, our viewer **allows you to drill into each segment by clicking on the relevant segment**, and then clicking on items within the segment until you will eventually reach the **mSCOA Guid** against which values can be posted.

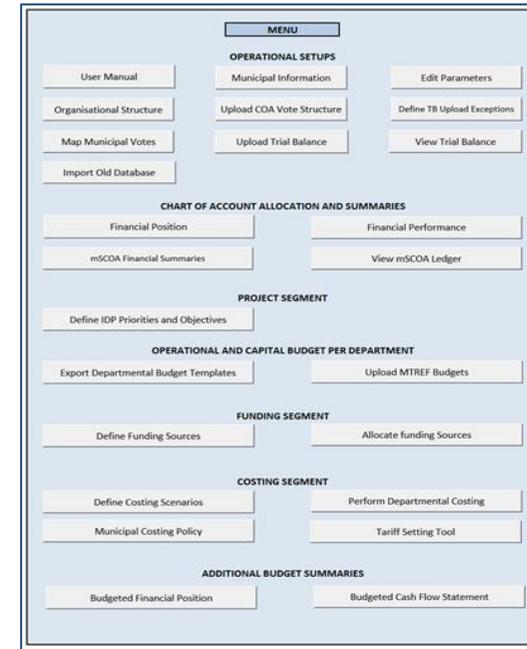
It has been programmed that if a specific item is clicked/expanded, the previously clicked/expanded item will not close or regroup.

This allows one to expand various sections and subsections in order to compare and interrogate the chart. Items will only be 'Grouped' again once an 'Ungrouped' item is clicked in order to close it.

Provision is made to **indicate for each sub-selection** whether Breakdown is allowed by NT, and it also indicates whether the relevant item that has been expanded is a posting level, or if you are required to continue expanding to reach a posting level.

The Ducharme mSCOA Tool also provides for **practical support** for staff to interpret as well as customise the mSCOA structure in future. Given the flexibility of our tool, the sequence in which we compare the current chart of account to mSCOA can be adapted.

	Breakdown Allowed	Posting Level	mSCOA Definition
PROJECT			
Capital	No	-	Expenditure used to create new assets, increase the capacity of assets beyond their original design capacity or service potential, or to
Infrastructure	No	-	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely.
Existing	No	-	Capital expenditure on existing infrastructure assets consist of renewal and upgrades.
New	No	-	Projects of a capital nature undertaken to create "new-infrastructure assets" as per definition of an "infrastructure asset".
Coastal Infrastructure	No	-	Addition from CIDMS in Version 5.5. Projects relating to the renewal of existing coastal infrastructure assets.
Electrical Infrastructure	No	-	Projects relating to electrical infrastructure for creating new assets.
Information and Communication Infrastr	No	-	Information and Communication Infrastructure added in Version 5.5 to align with the CIDMS classification. Projects relating to the renewal
Rail Infrastructure	No	-	Transportation changed to Rail Infrastructure in Version 5.5 to align with the terminology used in the CIDMS classification. Projects relating to the renewal
Roads Infrastructure	No	-	Roads, Pavements, Bridges and Storm Water as per Version 5.4 divided in Roads Infrastructure and Storm water Infrastructure as per
Sanitation Infrastructure	No	-	Waste Water Management changed to Sanitation in Version 5.5 to align terminology and classification to the CIDMS. Projects relating to the renewal
Solid Waste Infrastructure	No	-	Solid Waste Disposal change in Version 5.5 to Solid Waste Infrastructure to align terminology to the CIDMS classification structure. F
Storm water Infrastructure	No	-	Roads, Pavements, Bridges and Storm Water as per Version 5.4 divided in Roads Infrastructure and Storm water Infrastructure as per
Water Supply Infrastructure	No	-	Water changed to Water Supply Infrastructure to align terminology and classification with the CIDMS. Projects relating to the renewal
Non-Infrastructure	No	-	This category provides for movable and immovable assets other than those classified as "Infrastructure".
Operational	No	-	Operational projects refer to current and short term projects for which the cost is immediately recognised as an expense and funded from
Default Transactions	No	-	Default account for transaction not relating to either capital or operational expenditure and of no specific interest in the context of this €
FUNCTION			
Function	No	-	Function is the standardised vote structure referred to in Section 1 of the Municipal Finance Management Act. Function is one of the r
MUNICIPAL STANDARD CLASSIFICATION			
MSC	No	-	Not Prescribed
REGION			
Regional	No	-	The purpose of the regional segment is to assign municipal expenditure and at the discretion of the municipality some revenue to the l
ITEM			
Revenue	No	-	The gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net a
Expenditure	No	-	Expenses are decreases in economic benefits or service potential during the reporting period in the form of outflows or consumption ;
Gains and Losses	No	-	Gains and losses are treated as a separate group of accounts due to the nature of these transaction. Gains arise from the proceeds c
Assets	No	-	Assets are resources controlled by the municipality as a result of past events and from which future economic benefits or service pote
Liabilities	No	-	Liabilities are future sacrifices of economic benefits that an entity is presently obliged to make to other entities as a result of past trans
Net Assets	No	-	The residual interest in the assets of the entity after deducting all its liabilities.



5.2 MSCOA BUDGET TOOL

In the absence of most municipal financial systems containing a MSCOA Budget Module, Ducharme has developed an **MSCOA Budget Compilation Tool** that has successfully been used to compile MSCOA Compliant Budgets. This Tool may also be **used to segmentise the budget transactions and assist in budgeting across the required 7 segments** (6 prescribed).

The resulting output provides an MSCOA Budget Data String that may be submitted to National Treasury, and furthermore be uploaded to the Financial System. Furthermore, the National Treasury's required A-Schedule may also then be populated and prepared for submission

WHO WE ARE & EXPERIENCE

Ducharme provides **public sector financial accounting and financial management support** and solutions. Our expertise is focused in terms of the type of support (Financial accounting and Financial Management) and the sector (Public Sector).

We have been operating successfully since 2003 and **assisted more than 150 public sector entities**, which include municipalities, Provincial and National Departments, PFMA Entities (Schedule 1,2,3) and TVET Colleges. We also provide support to international organisations and governments & institutions outside South Africa.

All our staff has a wealth of experience of working in the Public Sector. Our team includes qualified chartered accountants and staff with post graduate qualifications in accounting & financial management or relevant public sector experience.

PUBLIC SECTOR SUPPORT

Our public sector solutions focus on the following 5 core areas:

- **Financial Statements (interim & AFS);**
- **Asset Register;**
- **Revenue Management;**
- **MSCOA;** and
- **Governance.**

In each of the 5 core areas we have consulting solutions; e-solutions and training solutions as set out in the table across.

	Financial Statements	Asset Registers	Revenue Management	MSCOA Implementation	Governance support
Consulting	Assist in all aspects that affect AFS from helping to: - to prepare / repair basic accounting controls such as recons and registers; - preparing AFS; reviewing AFS; and to prepare audit files.	Assist in all aspects of GRAP compliant asset registers. This include asset verification, valuation, reporting and mSCOA transition support.	Assist in all aspects to ensure that you are billing all revenue you are entitled to. This include as-is assessments, process improvements and practical onsite support	Assist you to prepare MSCOA compliant budgets, mSCOA Asset Registers. 15 business processes support. Review support for the implementation process of mSCOA.	Review and implementation of processes pertaining to supply chain, risk & performance management.
e-solutions	Ducharme Dynamic AFS Automated solution to prepare AFS and Interim Financial Statements. Tailored templates includes PFMA, MFMA Templates Other e-solutions include AFS registers, such as electronic lease and grants registers.	Ducharme Dynamic Verify Solution to verify movable assets, which capture asset details, GIS location, photos, condition assessment information. The information is synced and accessed via the cloud.	Ducharme Dynamic Revenue & Field Automated solution to prepare exception reports showing why municipality is not billing all billable revenue and how to fix this. Other revenue e-solutions include a mobile app that teams can use in the field when gathering/ verifying consumer data door to door.	MSCOA support tools Automated solution to prepare an MSCOA compliant budget. Also we have a system to implement MSCOA compliant costing of interdepartmental charges.	Other e-solutions include irregular, fruitless & wasteful expenditure registers.
Training	E learning solution on implementing IPSAS/GRAP and Foundation Accrual Accounting. 15 day GRAP Reporting Framework course run in conjunction with the University of Pretoria's Enterprises	5 day Asset Management & GRAP Asset Accounting course run in conjunction with the University of Pretoria's Enterprises	Revenue Management course run in conjunction with the University of Pretoria's Enterprises	We have two National Treasury / CIGFARO accredited mSCOA trainers. We have developed a comprehensive mSCOA implementation manual.	Tailored training for risk-, performance- and supply chain management Tailored courses for Councillors such pertaining to GRAP AFS and the municipal management processes above.