Appendix A: Digital Transformation Programme Financial Costs and Forecast Savings

Specialist IT consultants Amido and Intergence are named in the report as they have undertaken the digital transformation assessment work and know the council well. However, we are testing their proposals vigorously using the comparative information available within the Gcloud-9 framework and a detailed value for money assessment will be completed separately in accordance as per our Council's Procurement Procedure Rules. A final decision on the award of contract will be a Portfolio Holder decision.

This appendix follows the report format of creating different sections for each of the three Digital Transformation proposals, as follows:

1. Investment In 'Front Office' Technology Integrated With 'Back Office' Databases

The front-office product suite/ back-office database integration and website re-design proposal will cost £519,200 one-off investment with £71,500 ongoing costs, as outlined in the following table. The ongoing costs comprise licensing costs and annual database integration costs. The project is estimated to be fully completed in 18 months.

Description	One-off Project Costs			Ongoing
Front-Office Product Suite Integration	**Amido**	**Intergence**	**Other**	
Customer experience/ self-service systems, systems integration/ web design - Amido 305 days/ Intergence 128 days	306,000	140,800	-	-
Front-Office product costs/configuration	-	-	35,500	-
System software (APIs) / hardware (non-reoccurring)	-	-	36,900	-
Ongoing software/ support & maintenance	-	-	-	71,500
Sub-total	306,000	140,800	72,400	71,500
Project Total			**519,200**	**71,500**

As previously outlined, this proposal will significantly increase opportunities for residents and customers to self-serve (channel-shift) and we anticipate that take up will be significant, leading to operational efficiencies and staff savings. However, efficiency savings generated through self-service channel-shift are hard to accurately forecast and commit to, bearing in mind that they are reliant upon changing resident/ customer behaviour. This channel-shift behavioural management is also somewhat dependent upon Tendring's demography so direct comparison with other districts is somewhat problematic. However savings have been forecast across two specific areas – staff and non-staff savings with further details as follows:

Estimated Non-Staff Savings

Budgets	Estimated Integration Savings	Self-Service Additional Postage Savings
Planning Printing Costs	2,107	-
Planning Mobility	2,510	-
Planning Scanning	9,875	-
Revs and Bens – Printing	4,566	-

Revs and Bens – Postage	4,335	-
Housing - Printing	850	-
Housing - Postage	1,150	-
Environmental - Printing	700	-
Environmental – Postage	620	-
	(26,713)	**(3,283)**
Total Non-staff Savings		**(29,996)**

Note 1: The budget figures are based upon actual budgets after adjustments resulting from over-lapping initiatives being undertaken across the authority to drive out costs.

The above savings use conservative calculated estimates that reflect the approach taken throughout the report in determining savings and return on investment. The projected non-staff savings of £29,996 go some way towards meeting the ongoing project costs of £71,500.

In addition to the above, the proposals will introduce staff efficiency improvements through process automation and through inputting data just once as opposed to into multiple systems and with increased opportunities for staff to work more efficiently and effectively out in the community. The new suite of products will also give managers customer trend statistics and business intelligence analytics to better allocate resources. This should also yield opportunities to improve efficiency and generate savings.

These staff efficiencies will, over time, enable posts to be removed from the establishment through natural staff turnover and taking restructuring opportunities. For each full time equivalent removed from the establishment an estimated saving of £25,590 per year would be delivered, based on an average administrative staff salary cost.

The following table summarises the estimated percentage return on investment based upon the non-staff savings set out above in addition to the potential staff reductions that could be possible through implemented the proposals set out in this report:

Front-office Product Suite / Back-office Integration Savings	Ongoing Annual Savings (£)	Return On Investment Based upon £519,200 Delivery Cost
Non-staff Ongoing Savings less annual costs	-41,504	
3 fte Ongoing staff savings	76,770	
Total Staff/ non-staff Ongoing Savings	**£35,266**	**6.8%**

In consideration to the above complexities it is proposed that the front-office product proposal is invested in based primarily upon the 'step change' improvement to service provision and a modest and achievable return on investment (ROI) of 6.8% or £35,266 per annum ongoing savings which as outlined equates to generating efficiencies enabling the saving of 3 full time equivalent staff across; the Revenues and Benefits Service, Housing Services, Planning Service, Environmental Service and Customer Services.

It is believed that the proposed savings are conservative and that greater new self-service take-up could lead to greater efficiencies and additional savings through natural turnover/ vacancies and retirement.

2. Migration To The Microsoft Azure Platform – *'The Public Cloud'*

This migration proposes a shift in ethos to utilising the Azure platform for around 80% of our IT supporting infrastructure. This shift will move the council financially from a position of periodic and significant capital hardware re-investment to that of ongoing monthly Azure platform revenue rental costs.

2.1 Hardware Ownership and Replacement Financial Capital Cost Analysis

Some 4 years ago, the original IT Strategic Investment report identified that our data storage SANs would have a life expectancy of between 5-7 years at which time they would need replacement with the hardware replacement savings accrued over the period paying for the capital replacement costs.

With the fast pace of IT technological change it is now increasingly clear that the SANs and additionally our data backup systems will realistically require complete replacement, or further significant investment within a 5 year timeframe. Their performance will become increasingly stretched by ever-more-hungry software programmes leading to degradation in service and their storage capacities are likely to become exhausted within the next 2-3 years.

Bearing in mind that our SAN infrastructure supports all of our council services, to try to extend their lifespan to cover the full 7 years would be to accept an operational business risk that we could not allow to happen.

Cabinet should therefore note that the capital hardware ownership replacement costs need to be considered on a 5 year replacement cycle rather than a 7 year cycle and that our next hardware replacement purchase (if we choose to continue to operate this ownership model) must consider a significantly higher specification with a corresponding and unforeseen significant additional cost.

Capital Hardware Ownership Investment	Data Storage Hardware Replacement Costs	5 Year IT Hardware Replacement Budget	Unbudgeted Cost Pressure
2019 Estimated capital SAN replacement costs *(See note 1 below).*	229,071	-	-
2019 Estimated capital DPM data storage solution replacement costs *(See note 2 below).*	106,709	-	-
Estimated capital investment costs sub total	**335,780**	**-**	**-**
5 year IT Capital Hardware Replacement Budget savings (See note 3 below)of £45,000 per year		**225,000**	**-**
Unbudgeted Estimated Capital Cost pressure			**110,780**

Note 1: The estimated SAN costs are based upon 2014 actual costs £152,714 with an additional 50% uplift cost increase and including additional data storage capacity.
Note 2: The estimated DPM data storage costs are based upon 2016 quoted replacement costs of £22,231 with a further 20% uplift to allow for cost increases. The costs allow for replacing three existing machines and adding one further DPM system to meet future estimated increases in data backup capacity and speed.
Note 3: Estimated savings accrued from not needing to replace physical hardware.

For simplicity, if we consider off-setting the one-off specialist consultancy resourcing costs of £226,000 against this next cycle of hardware investment, there is an estimated £109,760 capital saving during this next cycle. The replacement costs in 2024 are realistically too difficult to forecast with any real accuracy.

In consideration to the fast pace of technology change, the council's continued and relentless growth in data storage and the need to continually increase computer processing power to meet escalating software programme demands, the above hardware ownership and capital replacement cost model is realistically unsustainable without accepting a considerable element of unknown financial risk.

In acknowledging that the SANs and data backup/ storage retrieval systems are fundamental to the council's IT supporting infrastructure relied upon by every council service, the above capital re-investment analysis clearly doesn't work and identifies that the council simple must adopt a different model to that of hardware ownership and periodic capital re-investment cycles.

2.2 Cloud Migration Financial Revenue Cost Analysis
A migration to the Microsoft Azure platform will deliver ongoing revenue saving implications from IT budgets in terms of; support savings, licensing, power, support contracts etc. The following table identifies these revenue savings off-set against the ongoing Azure platform revenue costs. The table identifies a small ongoing revenue increase of £8,337 per year.

Description	Existing Budgets	Ongoing Savings	Ongoing Costs
Reduced 1 fte IT reduced support need	760,080	31,663	-
Reduced hardware refresh budget	100,000	45,000	-
Reduced comms suite maintenance	24,760	17,000	-
Reduced power costs	109,269	15,000	-
Microsoft licensing savings (C17604753)	173,740	32,000	-
IT Annual Operating Cost Savings Sub Total		**140,663**	-
Microsoft Azure Platform Annual Hosting Costs			149,000
Annual revenue budget costs			**8,337**

Note 1: The reduced hardware refresh budget of £55k per year is sufficient to cover ongoing hardware replacement commitments, for example, PCs, laptops, network switches etc.

As previously discussed, Cabinet should note that the Microsoft re-occurring annual charges will increase as our data storage needs continue to grow. These data storage costs represent around 30% of the total hosting charges with the majority of the hosting charges based upon the number of physical servers used each month with associated charges based around each servers processing resource specification e.g. more power/ speed costs more per month.
Our existing data storage SANs have capacity to allow for further data storage growth of 25%. The Microsoft Azure platform data storage cost calculations also include this growth factor. Based upon today's Microsoft charges our data storage costs represent some £42,199 per annum. The following table seeks to identify the additional ongoing revenue costs that we will incur over the next 5 years during we estimate our data storage needs will double in the next 5 year period.

Time Period	Date Storage Annual Growth	Projected Revenue Data Storage Cost Increases
Year 1	25%	0 (Growth Factor included)
Year 2	50%	10,550
Year 3	75%	21,100

Year 4	100%	31,649	
Year 5	125%	52,749	

It should additionally be considered that the above model and resultant data storage forecast cost increases may not occur. Whilst our data storage requirements will increase, as the Public Cloud market continues to mature sector competition is driving down data storage costs in real terms.

Taking the migration to the Microsoft Azure platform strategy as a whole, Cabinet should understand that the financial business case is complex and mixes capital costs, budgeted and un-budgeted, with estimated data usage growth analysis that will ultimately equate to monthly revenue charges.

In summary, based upon current Microsoft data storage charges, our ongoing annual 2023 revenue costs are estimated to increase to £52,749. This revenue increase will need to be accommodated as a cost pressure within the ten year financial forecast.

This financial analysis does not take into account Microsoft's strategy of increasing their non-cloud based licensing charges for Microsoft Office suite as used by every council IT-supported officer and councillor. The council's Microsoft Office licensing costs are based upon a four year government rate that will expire in 2018 at which point the costs will increase by an as yet unspecified amount. This strategy is in polar contrast to Microsoft's pricing reduction of their comparable Office 365 cloud-based licensing costs that our migration strategy will move us onto.

3. Development of a Smartphone Tendring 'Tourism Events App'

The creation of a smartphone Tourism Events App will cost £120,000. The smartphone tourism event APP proposal financial returns are even harder to accurately forecast as this is a 'first' APP deployment for the council and any new income generation is reliant upon economic confidence and the willingness of business (local and national) to provide sponsorship, marketing and event attendees to provide new crowd funding.

Based upon their APP development experience within other sectors, consultants have forecast the following income generation based upon the potential to generate additional income from the Air Show only, but, in doing so they recognise the increased risk of providing inaccurate return on investment calculations associated with this proposal. Specialist consultants suggest that a new tourism event App could conservatively generate new income streams of between £33,405 and £54,196 per year as outlined in the following table.

Air Show App New Revenue Estimates (£)					
Income Stream	Yr 1 (2018-19)	Yr2 (2019-20)	Yr3 (2020-21)	Yr 4 (2021-22)	Yr 5 (2022-23)
App Purchase	13,405	16,086	19,303	23,164	27,797
Additional Donations	12,000	13,200	14,520	15,972	17,569
Sponsorship	3,000	3,075	3,152	3,231	3,311
Advertising	5,000	5,125	5,253	5,384	5,519
Totals	33,405	37,486	42,228	47,751	54,196
Cumulative Totals		70,891	113,119	160,870	215,066

The Air Show additional income stream table makes the following assumptions;

1) Application (App) purchase assumes a 20% crowd take-up for 59p App year 1 with an additional 20% increase of year 1 revenue on subsequent years.
2) Additional donations are enabled through the App providing Android and Apple pay functionality with TouchID for people without cash. The table assumes a 10% year on year increase.
3) Income from additional sponsorship is an estimated figure increasing by 2.5% each year.
4) Local businesses could advertise on the App and have location information via location services. This is an estimated figure increasing by 2.5% each year.

The Air Show additional revenue table identifies the £120,000 App investment could achieve a return on investment in between three to four years based solely on Air Show income. These income streams should be improved through using the App technology on other major tourism and leisure events throughout the year, including theatre productions.

With the potential risk associated with over-estimating the smartphone APP return on investment it is recommended that this proposal be considered based partly upon its potential to generate additional income. But partly upon the App being a technology trial that has proven to be highly effective in other market sectors, notably with the younger generation.

In addition to the potential to generate new income streams, the technology may be re-usable in other areas of council activity, for example, within our Career track apprenticeship service to promote employment and training opportunities.

Given the recognised financial risks associated with this App investment proposal, the recommended approach is to deliver a mobile app feasibility study during the initial front-office product digital transformation phased of the programme. The purpose of the further study is to determine if it's practical and feasible to move to the next stage of App prototyping/Alpha. This further feasibility work is a key element of the programmes governance and due diligence arrangements. Its output will inform the council further with the opportunity to stop the App investment strand of the programme if appropriate, before charges are incurred.