802 WORKS
WiFi made simple

**Town Centre Intelligent WiFi
Proposal**

Prestwick Community Councils

Overview

802 Works is proposing a WiFi network solution, offering connectivity within Prestwick Town main conurbation area to afford FREE WiFi connectivity to tourists, visitors, local businesses and residents.

802 Works proposes a legally compliant, reliant, secure and safe public WiFi solution that will deliver effective outdoor WiFi coverage for the town.

The solution is designed to meet the project objectives of "Prestwick Innovating for the Future" strategy document. It will also encourage direct engagement between the community, businesses, tourists and consumers and explore opportunities for additional income generation.

This proposal covers 3 specific elements to deliver a fully integrated Digital Town solution with WiFi the core technology to encourage engagement and ensure succeed. This will allow Prestwick Community Council to take full advantage of the solution potential through consumer engagement, awareness of products and services and community activities and events.

802 WiFi Hardware and Infrastructure:
- Access Points, Switches, Routers, Cable Management, Engineering, Commissioning, Backhaul

802 Intelligent WiFi:
- To manage access, capture data and enable analytics on consumer behaviour, activity and network performance

802 Digital Marketing:
- Business and Community Portal to promote local business product, services and local community activities and events
- Community Web site as the focal point for engagement, information and education across the community.
- Social Media activity creation and proactive management

This document covers the equipment and services required to achieve this and is fully compliant with current EU regulations and WiFi standards. It also details further options for expansion of the network beyond its initial scope and service folio.

Proposal and Caveats

Street assets in the town centre would have to be surveyed so as to determine their suitability and best placement for installation of street-level WiFi equipment.

A full asset list will be created and distilled down to a clean-list of locations suitable for installation (subject to assessment by approved electrical subcontractor / roads operative).

As an initial estimate taken from the desk top survey, subject to modification should any physical / electrical restrictions come to light after the physical survey, four street-side assets were identified as mesh and root AP installation points respectively.

Further street asset surveys will be required on agreement to commence works to ensure the proposed design is fit for purpose and / or requires modification – if any.

Each location allows for suitable spread between mesh nodes, while still affording a solid footprint of WiFi coverage throughout the area.

Design and Plant

The following AP planner maps with signal coverage (Heat Map) was determined to be a best fit for the network requirements.

General practise and behaviour seen to date for linear mesh deployment in urban / metro areas would stipulate that the mesh hop count is kept to around 2-3 AP's, to ensure sufficient bandwidth for all users.

As a general rule, regions with signal strengths are proposed -70 dBm to provide sufficient coverage for standard use (this value may vary depending on user requirements, service level agreements, applications used, number of users serviced, etc.). APs are displayed in their planned locations and reflect the specified power and antenna properties.

Prestwick WiFi
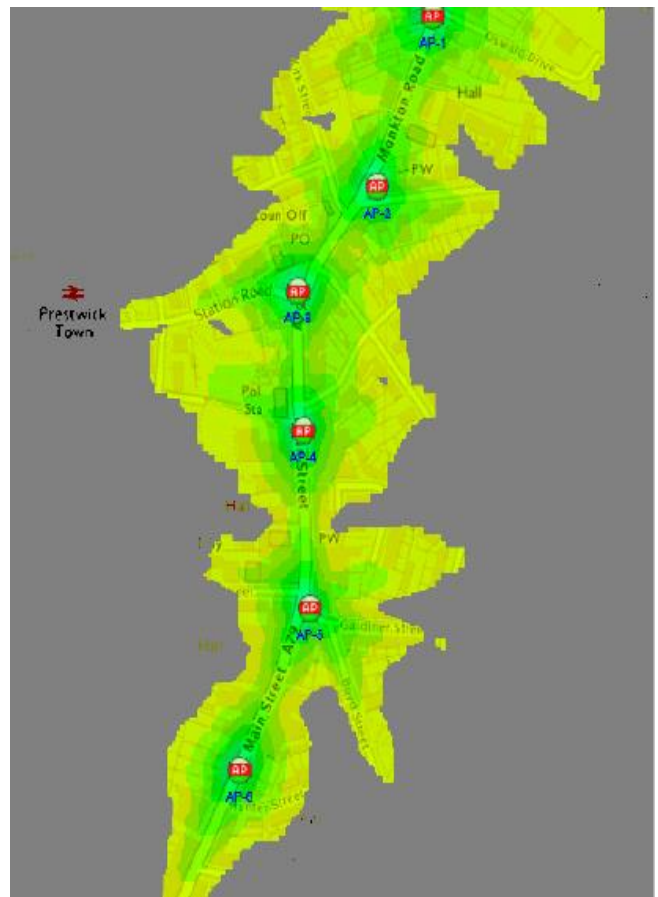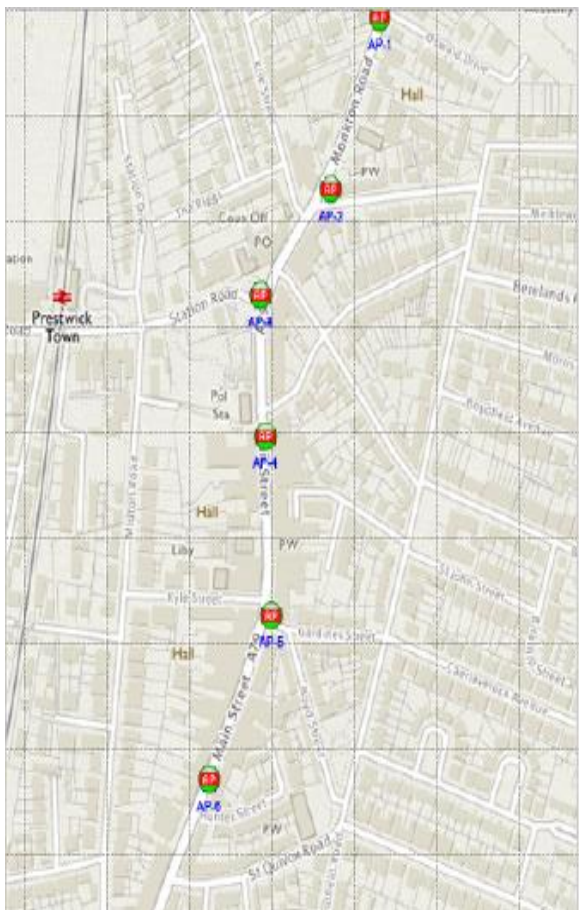
Prestwick - AP Planner and Signal Coverage -70dBm

WiFi Hardware and Infrastructure

The 802W AC M Pro provides simultaneous, dual‑band, 3x3 MIMO technology.

Weather-Resistant Form Factor: The enclosure of the AC M Pro is designed to withstand the elements, making it ideal for outdoor deployment.

Powerful Coverage: Built-in dual-band omnidirectional antennas deliver expanded range coverage outdoors.

Mounting Flexibility: AC Mesh Pro AP can be mounted on a wall or pole. (All accessories are included.)

Dual Gigabit Ethernet Ports: The primary port is for data and PoE; the secondary port is for bridging.

Multiple Power Options: You can power the AC Mesh Pro AP with an 802.3af compatible switch, PoE Switch, or the included Gigabit PoE adapter.

Key Benefits

High speed client performance with integrated adaptive antennas

- Technology greatly improves connection reliability and increases WLAN capacity

Light, slim design for easy deployment

- Compact, lightweight design with integrated antennas provide flexible deployment options with quick and easy installation

Highly Scalable

- The ability to cost effectively scale high density networks

Predictive channel selection for increased capacity and reduced interference

- Automatically selects the best performing channel based on statistical, real-time capacity analysis of all RF channels

Standard 802.3af power

- Easy installation using standard 802.3af PoE switches or PoE injectors

Unmatched Wi-Fi capacity and reliability

- Added signal gain and interference mitigation

Enhanced receive capabilities

- Support for signal polarization diversity with maximal ratio combining (PD-MRC) ensures reliable connectivity for mobile devices

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Broadband Connectivity and Service Delivery

To deliver network backhaul connectivity, a site would be identified which could potentially act as a suitable candidate for a POP to host the backhaul circuit and data equipment. This would have its' own data cabinet, termination points and would be completely separate from the host Network

The footprint for this equipment would be minimal – 6U at the very most in a standard cabinet, wall-mounted or otherwise.

From this point of presence (PoP), we would securely connect to the root AP for this to automatically connect to the other mesh AP's.

Siting Internet connectivity in one location under the customers control while giving them ownership of the mesh and WiFi infrastructure end to end is a more preferable option all round.

802 Intelligent WiFi

802 Intelligent WiFi is a secure public and guest WiFi platform that allows the customer WiFi experience to be highly personalised and data to be captured, monitored, managed and maximised.
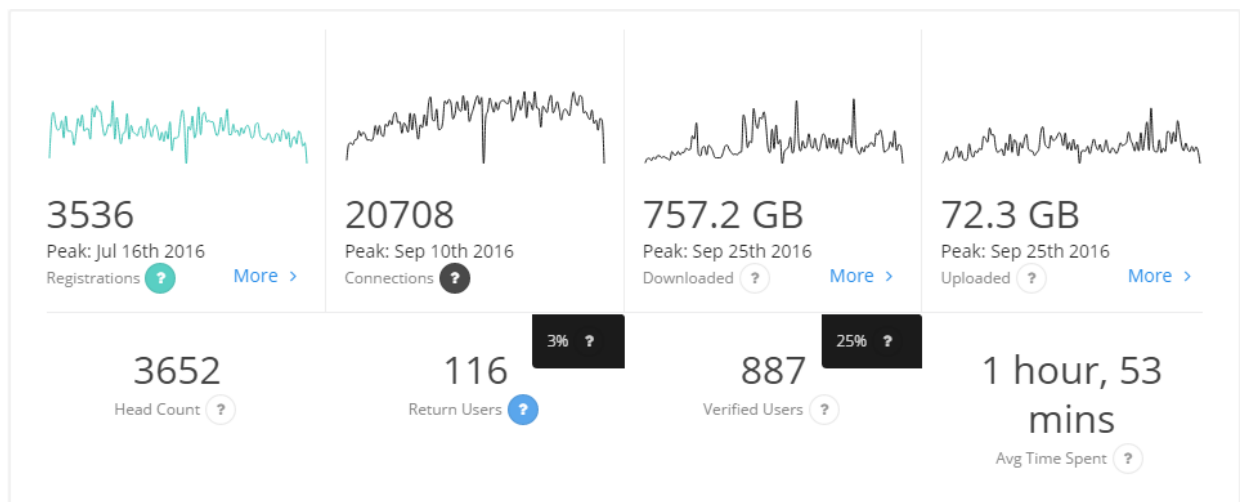**802 Intelligent WiFi** is an easy-to-use management tool that gives you ultimate control of your WiFi infrastructure.
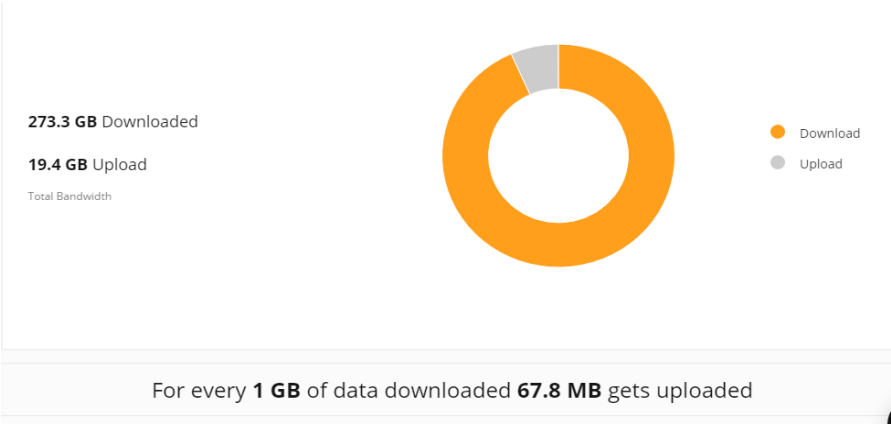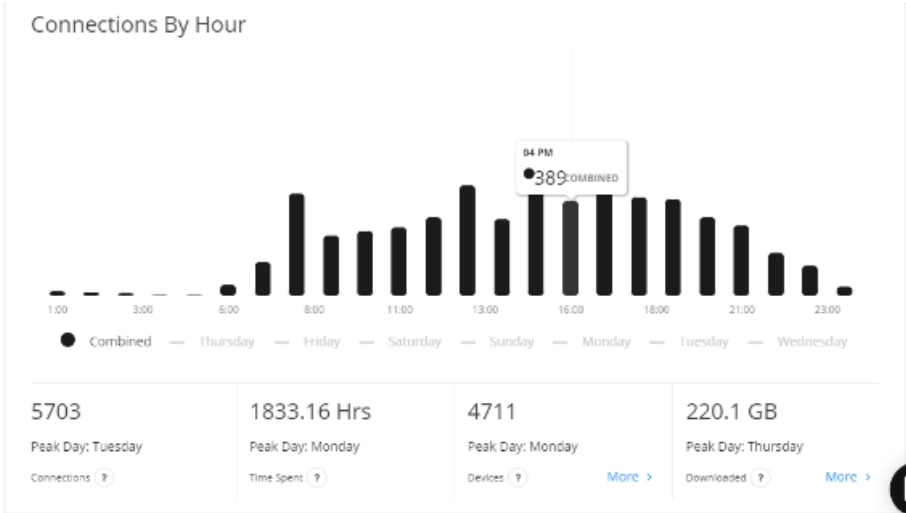**802 Intelligent WiFi** provides 360-degree view of your WiFi network, provides an administration tool, a suite of customer engagement tools and an analytical dashboard all in one.

Overview

At the heart of 802 Intelligent WiFi is a dashboard control panel – 802 Intelligent WiFi, an easy-to-use management tool that gives your client ultimate control of their WiFi infrastructure.

A 360-degree view of their WiFi network, an administration tool and a marketing suite and an analytical dashboard all in one.

Connections By Hour

04 PM
●389 COMBINED

1:00   3:00   6:00   8:00   11:00   13:00   16:00   18:00   21:00   23:00

● Combined   —— Thursday   —— Friday   —— Saturday   —— Sunday   —— Monday   —— Tuesday   —— Wednesday

5703	1833.16 Hrs	4711	220.1 GB
Peak Day: Tuesday	Peak Day: Monday	Peak Day: Monday	Peak Day: Thursday
Connections ?	Time Spent ?	Devices ?	Downloaded ?
		More ›	More ›

273.3 GB Downloaded

19.4 GB Upload

Total Bandwidth

● Download
● Upload

For every **1 GB** of data downloaded **67.8 MB** gets uploaded

Breakdown

	Connections	Time Spent	Devices	Download	
● Monday	489	198.87 Hrs	372	48.6 GB	Hours ⌄
● Tuesday	861	328.02 Hrs	699	31.4 GB	Hours ⌄
● Wednesday	947	429.83 Hrs	761	47.8 GB	Hours ⌄
● Thursday	1009	371.70 Hrs	815	46.8 GB	Hours ⌄
● Friday	866	309.05 Hrs	689	41.8 GB	Hours ⌄
● Saturday	744	283.65 Hrs	605	35.5 GB	Hours ⌄
● Sunday	786	304.15 Hrs	611	36.4 GB	Hours ⌄

802 Intelligent WiFi provides

- Guest access to the Internet from **their own portal branded with their company logo**, promotions and localised content.

- Bespoke portals for specific events to deliver **highly tailored content** as well as options for third party offers and advertising

- A 'virtual concierge' that recognises the guest's location and delivers specific content such as food and drink promotions when in the bar or restaurant

- **Detailed analytics** and reports on WiFi usage, frequency and type of Internet access

- **A robust WiFi infrastructure** designed to handle peaks and troughs in Internet usage depending on occupancy

- Control over if and what your client **charges for WiFi** and any limits they want to set on duration and bandwidth

- Full integration with their **Property Management System**

- A way for visitors to **log in using their favourite social network** to make access quick and hassle-free

- Full compliance with **European legislation on Lawful Intercept** to ensure your client is not liable should illegal activity be carried out via their Internet connection

Which gives you

- A continuous **branded experience** that serves as a constant reminder of your values and USPs and enhances the customer experience

- The means to **generate additional revenue** as guests access the Internet when attending an event

- The ability to deliver **real-time pin-point marketing** to create new revenue opportunities and highly targeted and timely customer communications

- Access to customer data and **intelligent analytics** to help your client deliver valuable content directly relevant to both their own business and their customers' needs

- High levels of **customer satisfaction** as a result of fast broadband even when demand is high

- Flexibility and **control over what your client charges** and the level and type of WiFi service they wish to provide their guests with, whether they are with them for just a few hours or several weeks

- **Hassle-free** Internet for your guests for the duration of their visit or stay

- A dramatic increase in brand reach, **customer loyalty** and engagement through the **power of social networking**

- **Secure, safe and fully compliant WiFi access** that protects clients and business

Digital Friendly WiFi Accreditation

The Friendly WiFi symbol has been created and launched in collaboration with The UK Council for Child Internet Safety (UKCCIS), initiated by Government and WiFi providers after concerns were raised by leading child safety charities that children and young people were being put at risk of viewing and accessing inappropriate material when using public WiFi.

The commitment made by the main WiFi providers was that their standard public WiFi offering would automatically filter web pages known to the Internet Watch Foundation (IWF) that depict indecent images of children and advertisements for or links to such content.

The Friendly WiFi program was introduced to ensure that the public WiFi being accessed is filtered and safe. Venues displaying the Friendly WiFi logo have Wi-Fi filters which block access to non – PG content. Making the web a safe place for children to be.

802 Digital Marketing

Hospitality, Tourism and Retail,

Providing WiFi to tourists, consumers and guests is no longer a luxury – it's a necessity.

Of course, providing that access should be a seamless extension to the experience of staying away from home. Their solution allows your client to charge for WiFi should they wish to, as well as set the terms of access. And with flexible bandwidth, they can keep multiple users happily connected.

Through digital marketing, together, we'll attract tourists and locals to the town centre for shopping, dining, local events and taking part in all aspects of vibrant community life.

What's more, the digital marketing tools made available to you will be used to capture intelligent data and provide valuable reporting tools for monitoring engagement levels within Prestwick community.

Capturing intelligent data and owning your own data is a step change for a local community. It enables local business owners and community support to analyse, plan and enhance community, business and tourism opportunities by truly understanding the demographic makeup of locals and visitors.

Owning demographic data opens up new opportunities to engage directly with customers to stimulate business growth, increase footfall and send targeted e-mailings that attract customers through the door again and again.

Furthermore, using social media, as part of marketing tools, will reach new audiences and consumers.

At grass roots level a community of residents and businesses can analyse its own data, understand current situation, assets and make collective decisions about future of your community.

802 Media Portal

The standalone digital portal is an **Intelligent Marketing** tool that converts leads into sales. Business owners create highly professional branded landing pages based on user profiles for highly targeted marketing promotions.
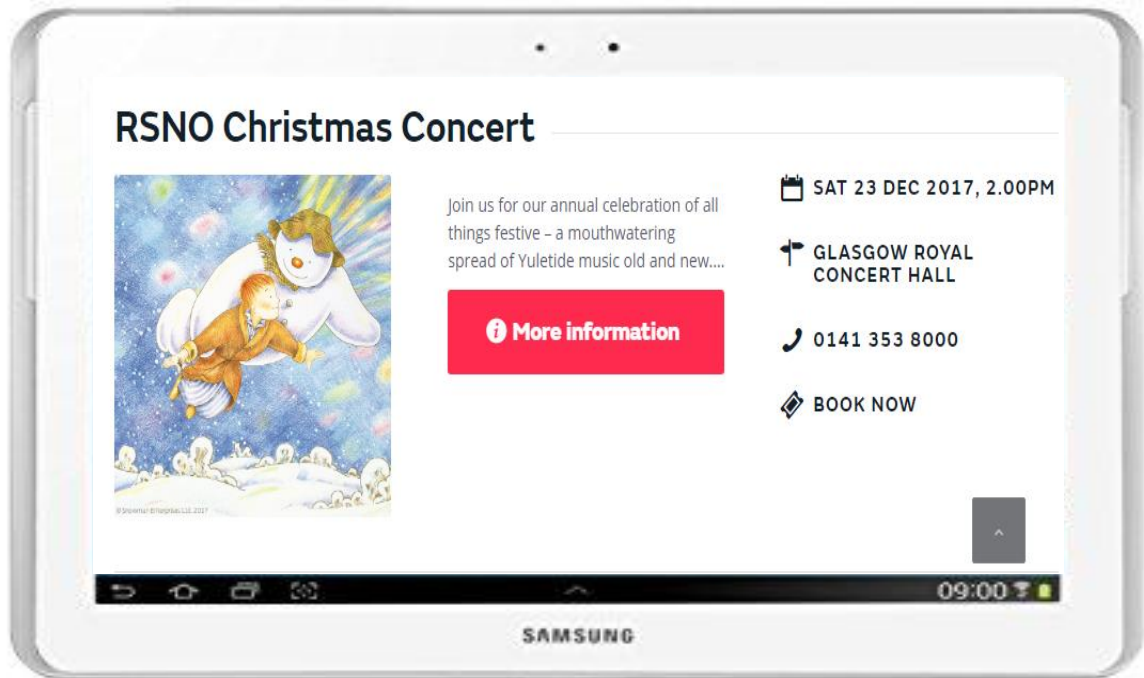

"I had 5 new clients come straight in off the street last week. It's amazing! They had seen my digital ad on the street WiFi and decided "Ellie Roy Hair" was for them..." Ellie Roy, Ellie Roy Hair, Auchterarder
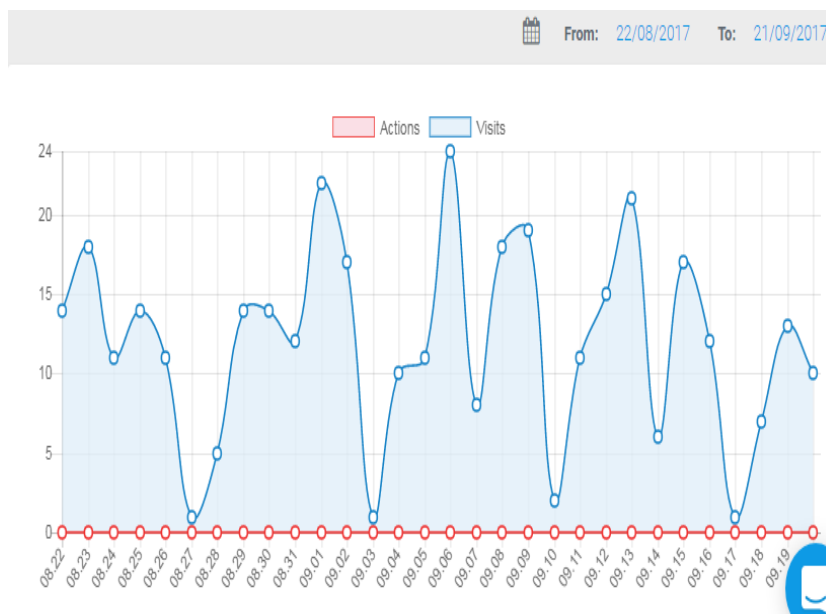
A fully **Customised Portal** where Retailers can measure activity and analyse results:

Promote across all devices

Real Time Analysis

Discover how **802 Intelligent WiFi** regenerated the community and local businesses of Auchterarder town. https://www.youtube.com/watch?v=flxor95KSQM

Prestwick Town Managed Website

802 will create, host, manage and support a **new fully responsive mobile first Website hosted on our Content Management System.**

This will act as a central hub for businesses, community and designated members to promote, inform and educate all things Prestwick.

The site would reflect the individuality that is Prestwick with professional photography commissioned to capture the uniqueness that is Prestwick.

We will deliver a fully managed responsive website managing the technical aspects including hosting and bug fixes, as well as comprehensive content management to ensure that all business listings, news, events and offers are kept up to date and on brand.

We would also support the website with new creative – updating the carousel with seasonal banners and designs to highlight any town events, new stores and to allow greater exposure for any marketing campaigns.

We will also consider Search Engine Optimisation (SEO) with the websites that we create and manage and will submit sitemaps to Google to ensure it can quickly spider the content, improving the website's online visibility.

Obviously without a current digital platform we feel there is an opportunity to develop inspirational content to help potential visitors plan their visit. This would provide a dynamic platform that would work well with a mix of content types and themes, providing shareable links for use on social media and driving people back to the website.
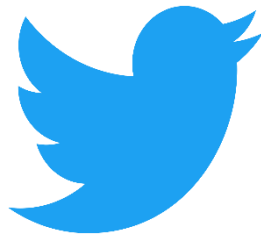
This will also improve your inbound traffic and boost your website SEO.
We will also setup and provide full access to Google Analytics so that the performance can be monitored and enhanced going forward.

Cowdenbeath Website: http://www.lovecowdenbeath.co.uk

![802 WORKS - WiFi made simple]
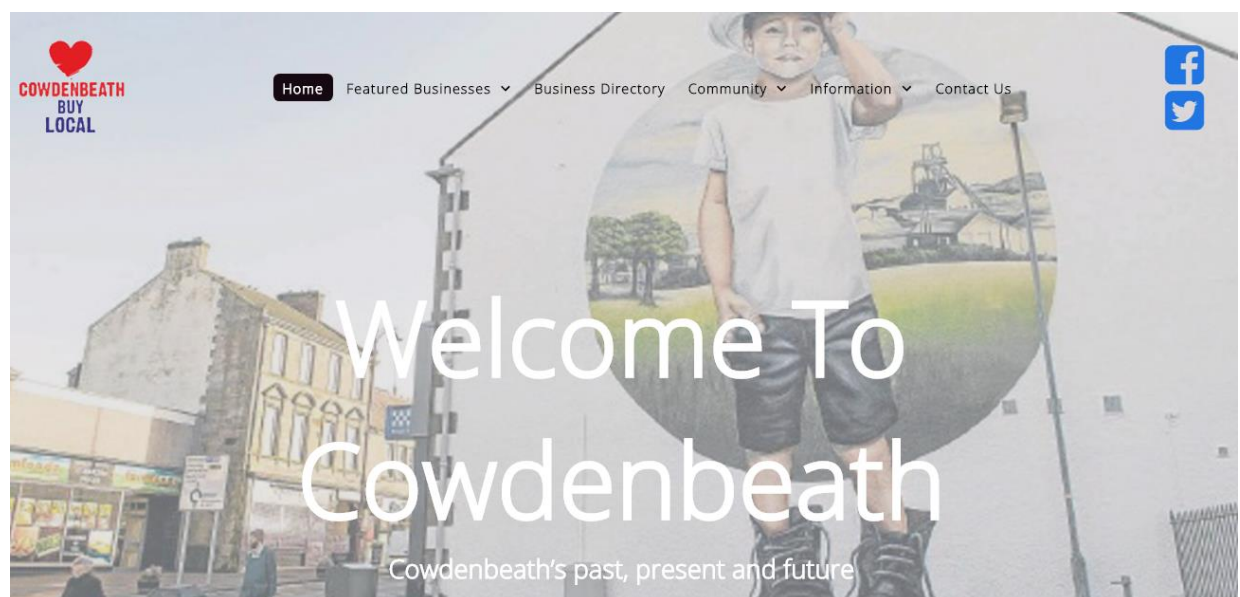
Managed Social Media

The proposed approach will be refined based on the priorities of the Community Council and associated members.

We would look to refine and develop your preferred approach as part of the initial strategy and planning session. We have compiled the below proposed approach that we believe will deliver the desired marketing outcomes.

Digital - New Fully Responsive Mobile First Website. Licenced Content Management System, Creative Theming.

Digital Management – Full technical and content management of the website, powered by our industry leading platform.

Social Media Management 3 Platforms - Social media support from 'Breakfast to Bedtime' 365 days a year, Facebook (set up and management min 1 post per day), Twitter (set up and management min 1 tweet per day), Instagram (set up and management min 1 post per week), 1st Level customer support (all responses within a timely manner), Creative Theming

Crisis Management – Support for all crisis situations via appropriate digital, social and media channels.

Social Customer/Community Care – Responses and interaction with all social media queries and comments.

Local Account Manager - A dedicated Account Manager to support day-to-day activity. Monthly visits to collect content and engage with all businesses. Bespoke online content submission forms, Bespoke hand-out content submission business cards.

Social Media Executive - responsible for monitoring and uploading content across all social media accounts

Reporting & ROI - Tailored reporting on full service including digital, social media analytics.

802 Digital Marketing Support

Dedicated Town & Community Marketing Support from **802 Works** is flexible and can be tailored to match your unique community requirements.
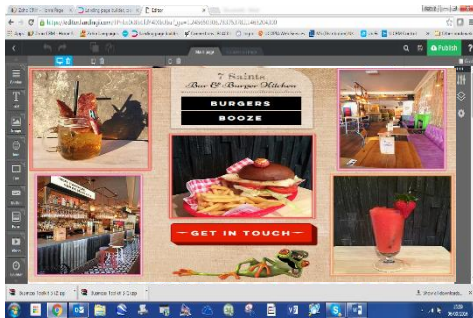
The role of dedicated support will be to liaise and build relationships with key stakeholders and become a familiar face in Prestwick. Working closely with business owners, local residents and community groups 802 will help raise the profile of businesses and local events. Also gather local newsworthy content that will engage with locals

Also identify and open up new revenue streams through events and digital advertising space.

At a glance here's examples of level of support we can deliver through a dedicated Account Manager.

Level 1: Dedicated Marketing Support

Digital marketing for B2B & B2C:

- Digital Portal
- Data capturing and analysis
- Digital marketing will be used to engage B2B & B2C users and create a more interactive experience
- Support will include content writing and flyer design for 2 emails per month. Volumes to be agreed (fees apply)
- Distribution of quarterly e-newsletter including marketing tips, news, events/activities and include user stats report.
- Social media support
- Monthly competitions at discretion of traders and businesses
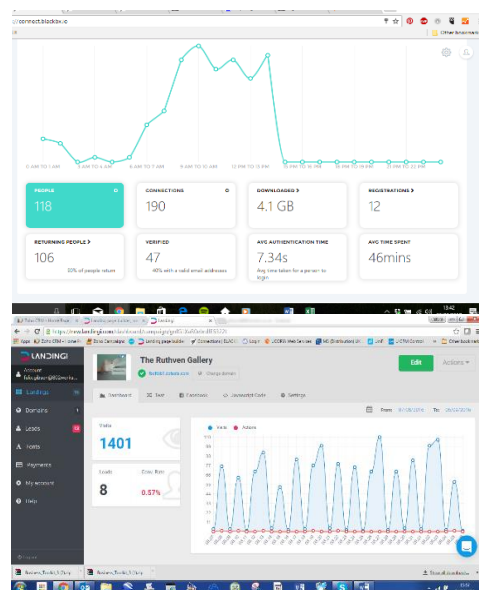
Monthly Reporting
Undertake performance analysis and reporting for digital portal usage communicated monthly with current users, Businesses and key stakeholders
Monthly Report will include:
- Details of number of users
- Registrations
- Connections
- Return users
- Downloads
- AVG time spent
- Recommendations for future marketing ideas based on demographics and users

Printed Material (Fees apply)

Order for printed promotional material for Prestwick Town WiFi (min orders apply to keep your costs low).

E.g. 'Prestwick Supports Free Community WiFi' promotional window stickers, table pop ups to promote log in details direct to customers, posters to attract more users.

We're offering an additional, individually priced marketing service to promote individual business:

- Designing bespoke digital flyers for individual businesses
- Writing bespoke email copy for individual businesses
- Developing special offer/promotional ideas

Billing tools, log in options and revenue reports

Our system offers guests and visitors highly secure, reliable and easy to use forms of payment using either PayPal or WorldPay. No card information is transmitted via the Internet without encryption, ensuring security.

Credit / Debit Card payment via WorldPay

802 Intelligent WiFi can offer the client a complete range of WiFi payment including Credit / Debit card, PayPal and voucher options. The 802 Intelligent WiFi service allows the client to create

free or paid for packages and ensure that the client keeps 100% of any revenue generated (Minus any credit card or web transaction charges). The 802 Intelligent WiFi platform will process funds directly or via a client's own merchant account, offering multicurrency cross border acquisition.

The 802 Intelligent WiFi card payment processing is managed by the WorldPay payment gateway, so your client and their customers can be confident that payment details are safe and secure.

Credit / Debit Card payment via PayPal

802 Intelligent WiFi are also able to offer your client the option to take payments via PayPal via a client PayPal merchant account or an escrow account provided by 802 Intelligent WiFi.

Reference Sites:

Auchterarder Town Centre – High Density Public WiFi and Superfast Broadband.

Auchterarder, like many Scottish towns, keen to reenergize and regenerate the town centre and outlying neighbourhood was hindered by very poor broadband accessibility.

Superfast broadband is viewed by most as a standard commodity today, like gas and electricity, but the majority of outlying towns like Auchterarder are neglected by traditional communication giants, unwilling to invest in outreach projects to deliver the vital service.

Without reliable, superfast broadband local businesses can't function and grow. Locals choose to shop elsewhere in bigger towns, the community is slow to interact with the outside world and tourists drive passed.

The result was the rapid completion of a ground breaking initiative to install superfast broadband, provide full interactivity throughout the town, create a free digital e-commerce portal and deploy a free public Wi-Fi zone practically overnight.

The quality of life for those living, working and visiting the town combined with the economic boost to the local businesses has re-energized the town centre.

The story has now extended beyond the local business owners. Auchterarder High School has become heavily involved in the project too.

Senior pupils, Heads of Staff, Auchterarder Community Partnership and 802 Event WiFi developed a training program recognised by the Scottish Government. Pupils develop practical knowledge, skills and hands on experience of commerce, marketing, IT and digital publication that opens up future employment opportunities.

The successful digital transformation of Auchterader town centre has created a vibrant high street at the heart of the community – a source of pride for all involved.

Hamilton Park Racecourse – High Density Public WiFi

Hamilton Park Racecourse is a thoroughbred horse racing venue in Hamilton, Scotland just to the south of Glasgow. As a flat racing course, its season runs each year from May to October.

Racing has been staged in Hamilton since 1782 and the present racecourse opened in 1926. Since 1973 it has been owned by the Hamilton Park Trust which ploughs back all profits into developing the course. As well as racing, Hamilton Park is noted for its live music performances.

The management team at Hamilton Park, determined to deliver a fully-connected race day experience for its thousands of race day attendees, approached 802 Event WiFi for a solution.

Accordingly, 802 delivered a high density WiFi solution based on Xirrus. Technically speaking, the solution included XR620 802.11ac internal access points and XR 4000 Series Wireless Array with central cloud management suite.

The deployment also included dedicated HP edge and core switches with Sense Firewall and Router services. Additional Siklu Radio PtP links were installed to provide Wireless Gig connectivity to corporate Marquees within the grounds. Finally, a dedicated Captive Portal solution was provided to offer a marketing suite, analytics, data capture and demographics. Cabling is Cat 6e.

The 802 Event WiFi installation provides full interactivity throughout the grandstand, enclosures, grassed areas, hospitality suites, bar areas, marquees and the open area at the front of the grandstand. Race goers and other attendees have simple fast internet access to feature rich content including Social Media, online betting, promotions, ticket upgrades, early bird incentives, food and drink ordering and much more.

Social Media login also gives the management team access to customer demographics, something that was not possible before, to create more meaningful dialogue and enhanced personal interaction with customers.

Marketing and promotional campaigns too are customer specific, catering for the needs of all patrons, while corporate clients now have state of the art WiFi facilities for concerts, events, exhibitions and seminars.

Milngavie Town Centre WiFi

Milngavie is a commuter town, with much of its working population travelling to Glasgow to work or study. With a current population of 14,000, the town grew from a country village into a minor industrial centre in the 19th Century.

It is renowned as the starting point of the highly-popular West Highland Way, the long distance footpath which runs northwards for 95 miles to the Highland town of Fort William.

By offering a free WiFi connection, The Milngavie BID team wanted to encourage visitors and shoppers to engage more with traders, cafes and restaurants in the town while the town's business owners were keen to secure greater interaction with regular and potential customers.

In addition, the BID team wanted full community involvement, providing instant, touch screen information and alerts about local events and attractions planned by community groups.

To get the job done 802 Event WiFi deployed a solution including ZF 7762 Mesh and Route Access Points with ZD 1100. Ruckus ZF 7731 PtP links were also installed to provide networking additional connectivity to outlying areas of the town centre.

Supporting equipment includes Switches, Firewall and Router, while a dedicated Intelligent WiFi solution was provided to offer a marketing suite, analytics and data capture.

As a result, Milngavie town centre will be in a position to offer free WiFi to international visitors, West Highland Way walkers and local shoppers in the town's busy pedestrian precinct.

Additionally, 802 Event WiFi's full, instant access to content-rich media will allow full community involvement, providing instant, touch screen information and alerts about local events and attractions planned by community groups.

The town centre will also benefit from social media WiFi access options, allowing traders to maintain contact with visitors long after they have left.

Perth Concert Hall – High Density High Concurrency Event (Peter Vardy)

802 Works were contracted to provide temporary WiFi for the Perth Concert Hall to support the deployment of a "Mission Statement" app for the annual Peter Vardy sales launch.

The criteria were simple – allow all candidates (800-1500 clients) to download the app in-premise, and then complete a synchronised survey using the app – concurrently – with no loss of service or degradation.

Utilising our flagship high-density equipment, every subscriber / client in the hall was able to complete this **synchronous** activity with no problem, whilst in the meantime entertaining themselves during any lull in the proceedings with the best the Internet has to offer.

Perth Concert Hall elected to retain the installed system, and are now planning to utilise the installed plant to support all further events, as well as their existing requirements for in-house VoIP / VoWLAN, data and so forth.