MACHINE DOCUMENT INFORMATION NEXUS


INTRODUCTION

It's Saturday. The machine you procured from another business just arrived. Two Field Service Engineers (FSE) and a few others are on hand to help. The question from one of the FSEs is "Who's got the documentation so I can adjust the set up parameters?".

Heads turn looking for someone to come forward. No one. As a complex and advanced piece of machinery, there is no online manual. It's the weekend, no one at the machine manufacturers will be available to help until Monday. Monday arrives, thousands of dollars have been lost in service time, travel expenses, delayed production time and nearly as expensive and hard to fix.....customer confidence.
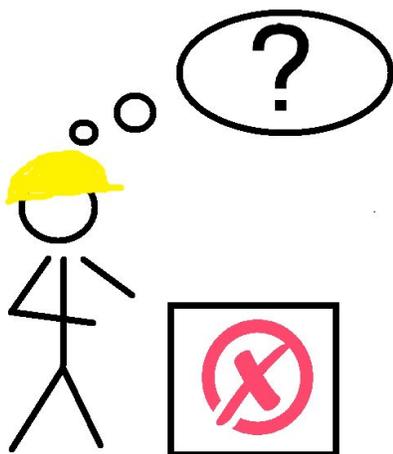
THE PROBLEM

HMI (Human Machine Interface). Human-machine interface is a component of certain devices that are capable of handling human-machine interactions. The interface consists of hardware and software that allow user inputs to be translated as signals for machines that, in turn, provide the required result to the user.

"The average office spends $20 in labor to file each document, $120 in labor searching for each misfiled document, loses one out of every 20 documents and spends 25 hours recreating each document." - Price Waterhouse Coopers

The amount of time a machine or piece of equipment is offline due to inefficient HMI can be costly. Very costly. Field Service Engineers labor and travel, Customer Service time in information/documentation retrieval and distribution, financial penalties for passed deadlines and the cost of delay in production time adds up to not insignificant amounts of money.

The issue is the way in which the necessary documentation and information is transferred. The more hands a piece of information needs to travel through, the higher the odds it will be lost, misplaced or damaged. In transfer of ownership or relocation of equipment, those odds go up dramatically.

OUR SOLUTION
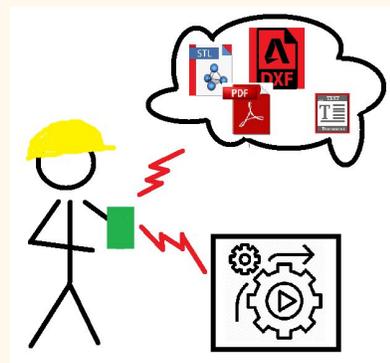
Machine Document. Directly connect Field Service Engineers to the timely information they need. No Customer Service phone calls. No internet searches. Up to date information. No relying on the machine being on.

- All that is required is to point mobile device camera at scan code.

Machine Document connects encrypted cloud based files and documents to be accessed by mobile devices by simply scanning a code on the

machine. Ubiquitous, mobile devices and scan codes enable service personnel to be free of extra devices or specialty apps. The ease of interface to access information is a simple as pointing a mobile device camera.

Other features benefits of Machine Document system.

1. Because the system is independent of machine programming and internet connection, it is not possible to hack the machines system or connection to company programming.
2. GPS information from scans are recorded so that one knows where and when and what component is being looked at.
3. Some documentation is proprietary. Using a unique file locking system it is possible to assign extra security level to individual files requiring permission. Single response auto generated email makes it efficient and keeps a record of who and where access was obtained.

MARKET OPPORTUNITIES

Currently there are three common ways to connect service people with machinery documentation. Paper documentation, Digital documentation (CDROM/memory stick etc..) and Onboard (internet/wifi accessible) documentation. We did not include website based option as most advanced technology production machinery is one off and/or proprietary sensitive.

- Paper and Digital documentation can be accessed immediately if it's whereabouts are known to those who need it.
- Onboard documentation. These sorts of systems rely on technical information to be built into the machines programming, and the machine is connected to a broader system (wifi/internet). It can be accessed only if the machine is turned on. Internet connected, it is susceptible to hacking.
- Supply chain and production programs such as SAP, Envi or iM3 can cover sourcing and assembly and even some aspects of tracing equipment and componentry but are not designed for FSE restart/relocation/maintenance interaction.

For all the areas covered by *The Internet of Industry, Industry 4.0, Lean* and other procedures and systems, there is one area not touched. **Machine Document** brings order to what has up until this point been unreliable person to person communication by creating a fast, easy and secure access to the most critical part of a machine, technical documentation.

MARKET SIZE

Nov 12, 2019 (AmericaNewsHour) -- The global Semiconductor Manufacturing Equipment Market was valued at USD 39.02 billion in 2016 and is projected to reach USD 70.2billion by 2025, growing at a CAGR of 6.75% from 2017 to 2025.

June 2019, Medical Manufacturing Equipment Market (ibisworld.com). Total estimated revenue for 2019, 41B.

The [Heating Equipment Manufacturing Market](#) is expected to exceed more than US$ 266.69 Billion by 2024 at a CAGR of 7.14%. The base year considered for the study is 2017, and the forecast period is between 2018 and 2023. Major factors driving the growth of the HVAC system market include increasing demand for HVAC systems for reducing energy consumption, extreme weather conditions, government tax credit and rebate programs, and growing demand for HVAC systems to upgrade old systems. The objective of the report is to provide a detailed analysis of the HVAC system market segmented based on heating equipment, ventilation equipment, cooling equipment, implementation type, application, and geography. It also provides detailed information on the major factors influencing the growth of the HVAC system market. (Jan 2019, marketresearchengine.com)

There are numerous other markets our versatile platform can easily be adapted to, such as: 3D printing (both manufacturing and medical), micro scan codes for chip and board products, heavy industrial machinery, remote power generation, state & local utility infrastructure and so on.

They are all very good candidates for Machine Document. The first focus will be Microchip manufacturing as we have more familiarity with it.

MARKET STRATEGY

We have two main strategic marketing intents: 1. Captivate Clients and 2. Gain Industry recognition. Our marketing tactics to accomplish the strategic intents are:

The most effective way to reach our market is in person demonstration. The basics can be covered in minutes. Most importantly, the people to target are Field Service Engineers and Service Directors. The highest concentration of this sort of audience is Trade Shows. National (IMTS in Chicago IL, SEMICON West in San Francisco CA& Advanced Semiconductor Manufacturing Conference in Sarasota Springs NY show for example) as well as state/regional shows. An aggressive schedule of between 10 and 12 trade shows in 2019 is envisioned for maximizing speed and penetration of market.

The bulk of the shows will concentrate on Semiconductor and advanced manufacturing.

Other direct sales marketing to include in company and online demonstrations and walkthroughs .

Workshops on document efficiency.

Promotion utilizing industry research on the time/cost and losses on industrial machinery.

Online marketing: Interactive videos and social media.

Strategic partnerships in spread representation in Europe and Asia and Australia.

Industry recognition to be achieved by independent research paper on the costs of missing and out of date machine and equipment manuals in specific markets.

OUR SYSTEM EVOLUTION

The system ecompasses vital features ..... instant document access via mobile device (phone, tablet and Satellite devices), GPS tracking of all interaction with system, quick new item entry and security for proprietary information.

Because of the scalable and flexible nature of **Machine Document**, future markets to include: Chemical and FDA certifications, Prosthetic 3D print files and integrating one touch replacement parts replenishment.

PRICING

$7500/year service contract (to include 1 industrial labeling printer) up to 100 models of equipment. $1000 per 100 models per year after.*

Onsite install/training. $1000 per day + travel expenses.

*Pricing for additional custom equipment and programming available.

COSTS - one time start up/1 year

Operations:

50K - Salary(ies)

10K- Patent search and application

13K - Computers, industrial label printers, phones, tablets and assoc office material

Sales and Marketing

110K - Trade shows (16). To include space, booth and travel expenses

5K - Demo materials/mailers/equipment

5k - Online marketing (contract)

Product development

10K - Specialty equipment & materials (3D etc..)

5K - At location/in field testing

20K - Contract Programming

SALES

Conservative sales projections put Machine Document on a sustainable growth path with predictable overhead costs. Because of the flexibility designed into the system, adding applications and different market groups will have little impact on programming and associated costs.

Year one there is to be 1 salaried position at $50K.   At end of year two (or 100 recurring customers) that will change to 3 full time positions. At this point, the cost vs profit gap will continue to grow due to low and predictable expenses.
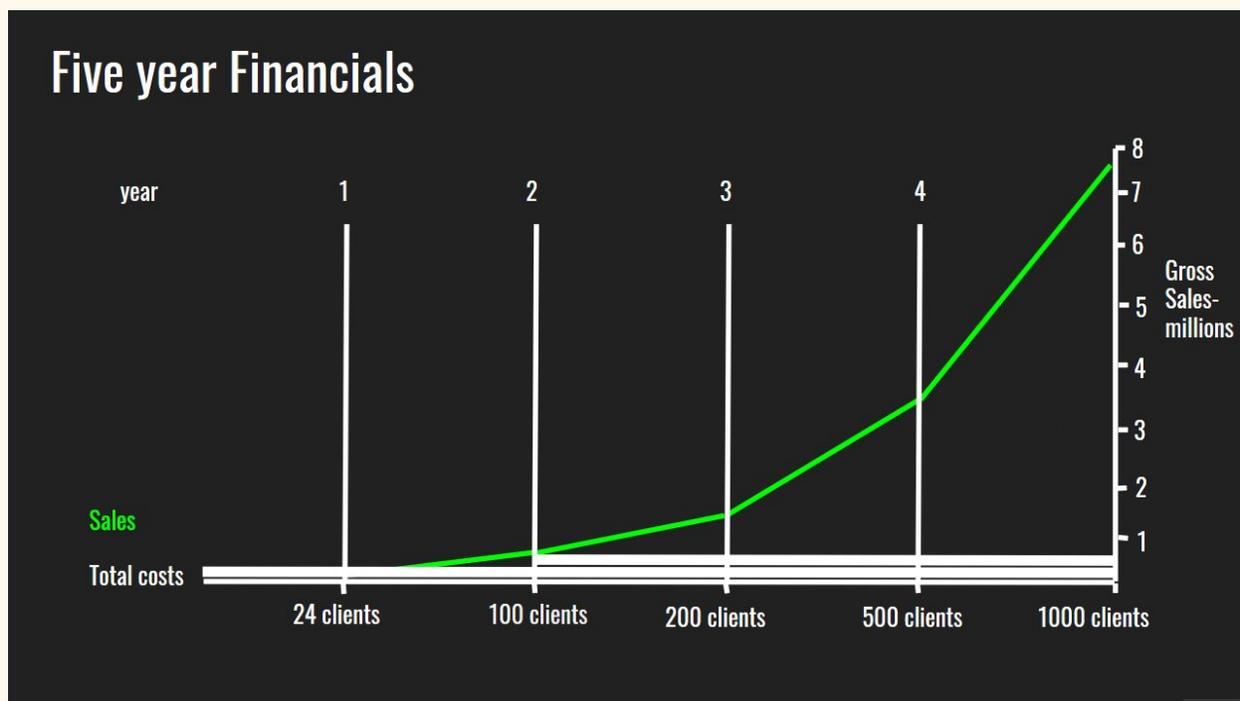
CONCLUSION

There is a gaping hole in the world of "The Internet of Industry", "Industry 4.0" and "LEAN". Technological advancements in machinery and manufacturing systems have greatly improved production and delivery, only as long as everything else is operating

smoothly. Up-to-date and immediately accessible information is critical, without which that world stops. Currently that information exchange is at the mercy of a series of many human relays and interactions that can span years and continents. Be it microchip or medical industry, HVAC or heavy industry, Machine Document trades time, distance and human error for instant secure information available to the right people at the right time at their fingertips when they need it. For the first time, Machine Document provides information management for those who service an automated world.