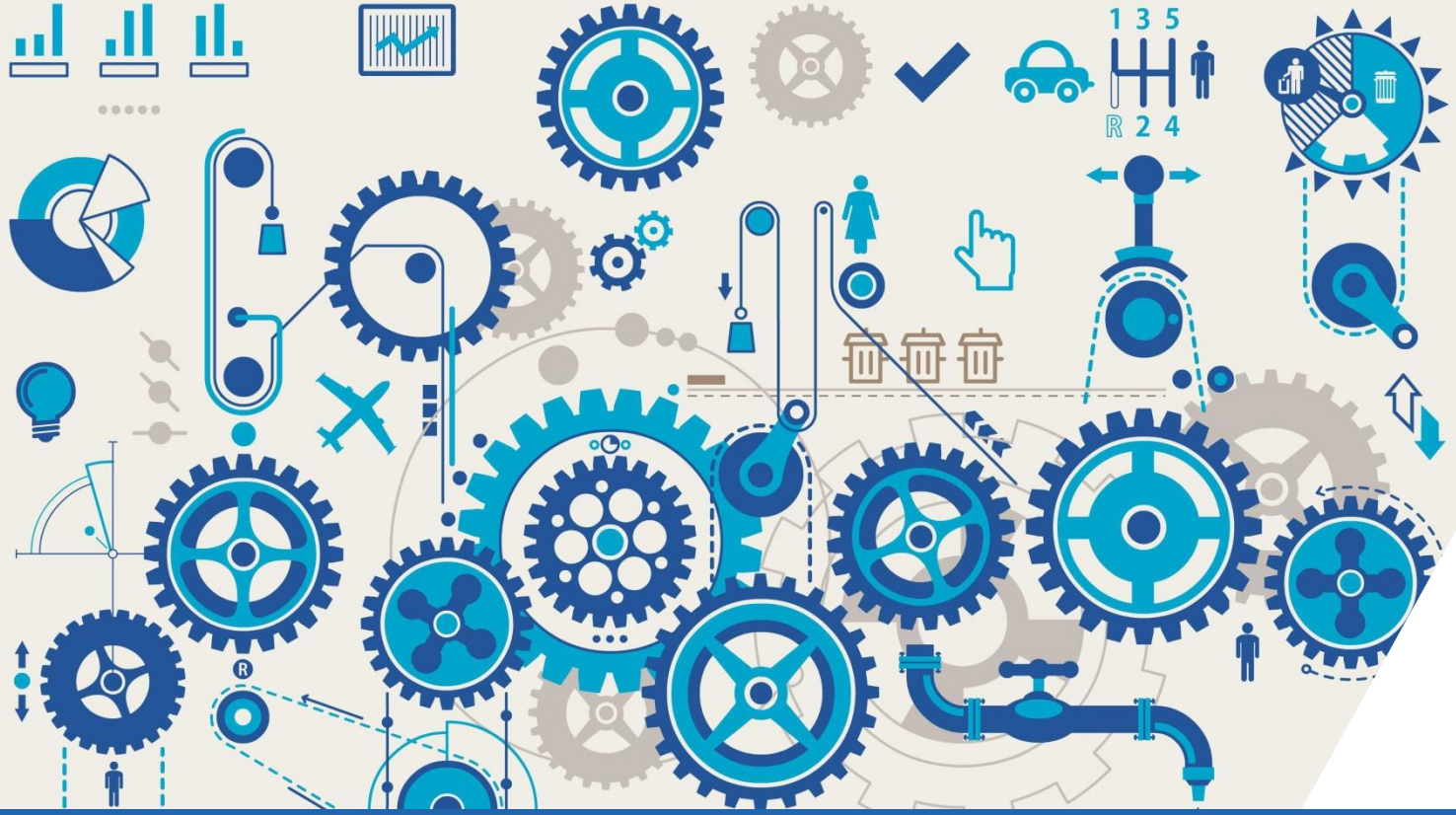
SHOW & TELL



TOOL BUILDING AUTOMATION

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Time to Update ICPI Tools

How long does it take to update your tool (other than time to download and upload tool to PEPFAR Sharepoint?

Tool/Tool Set Name

Your answer

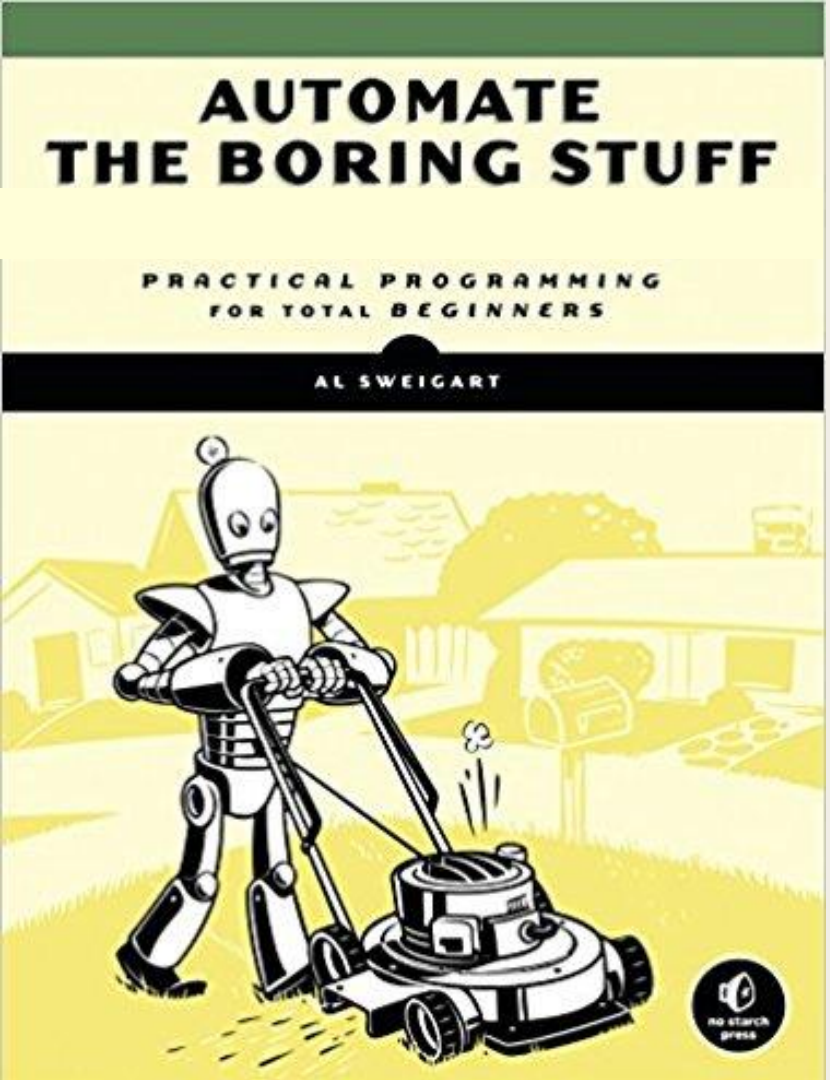
Time to update

- ◯ <0.5 hours
- ◯ 0.5 - 2 hours (quarter day)
- ◯ 2-4 hours (half day)
- ◯ 4-8 hours (full day)
- ◯ 8+ hours (more than one day)

Take a minute to complete this form for any tools you update

goo.gl/ihm75v

results



Purpose:

Discuss what automating a tool and its production looks like and how to improve “things”

What is automation?


What parts of the tool building process slow things down?

Dashboard Population Instructions

Q3 SIMS POART Dashboard

(As of 31 Aug 2017)

All Files Saved Here: pepfar.net > ICPI > Shared Documents > WORKSTREAM > SIMS > SIMS Working Folder

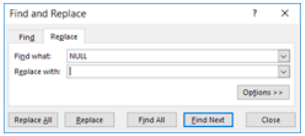
> "EXAMPLE" folder here (for practice/reference)

PHASE I:

1. Josh will email team once DATIM extracts are trimmed and posted to folder (saved here)

PHASE II:

1. Open "Data SETUP" Excel template (saved here)
2. Open OU's DATIM extract csv file (file from Josh, saved here)
3. **NEW STEP: Select all data in the extract file and use find/replace to REPLACE ALL "NULL" values with " "** <-single space



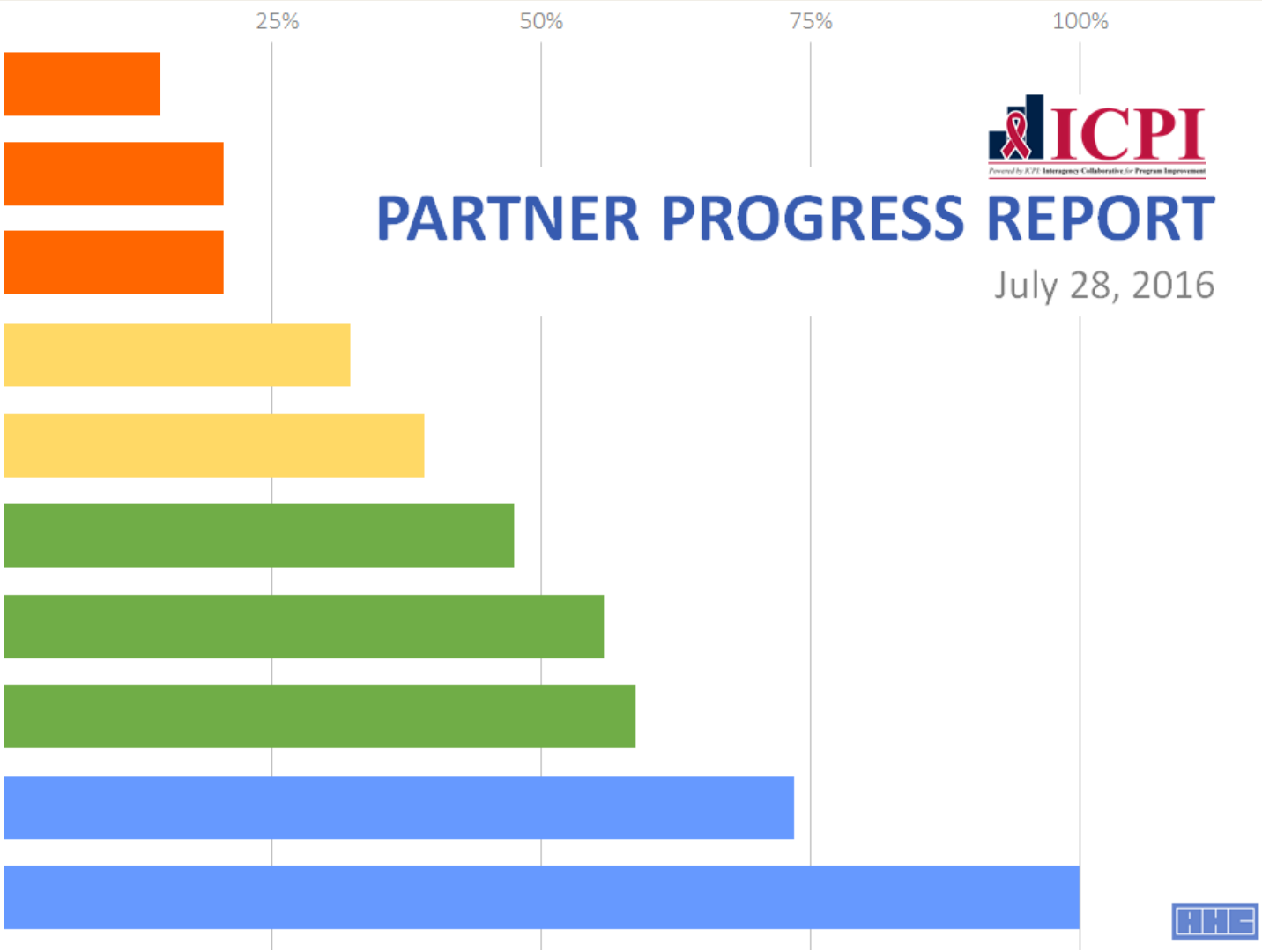
4. Copy table and paste as values into 1_SIMS DATIM EXTRACT tab, cell Q5
   Note: Delete row with previous table's column headers if needed
5. Click "Refresh All" data
6. Go to 2_SIMS PIVOT tab and select entire table
7. Copy table and paste as values into 3_SIMS POART Dataset tab, cell R5
   Note: Delete row with previous table's column headers if needed
8. Select and copy entire table, including column headers
9. Open new Excel file and paste as values the table from Tab 3
10. Save new file using following naming convention: SIMS POART Dataset_OUNAME_FY17 Q3_20170822
    Note: Use the same date "20170822" which is the date Abe extracted the data from DATIM
11. Upload dataset here

PHASE III:

1. Open the "SIMS_POART Dashboard_OU_FY17 Q3" Excel template (saved here)
2. On the **SIMS Dashboard Dataset** tab, select all rows in the table and click to 'clear contents'
   Note: Data loaded into template is a placeholder that helps prevent us from have to 'reset/reselect' filters on remaining tabs. Clear the data on the tab and do not click 'refresh all' data before pasting in actual dataset (i.e., follow Steps 3-5)
3. Open the OU's Dashboard Dataset (new file you created in Phase II, saved here)
4. Copy entire table and paste into the **SIMS Dashboard Dataset** tab in the Dashboard template into cell A5
   Note: Delete row with previous table's column headers if needed
5. Click "Refresh All" data

SIMS: a case study


AUTOMATE
ALL THE THINGS!



ICPI
Powered by ICPI: Interagency Collaborative for Program Improvement

PARTNER PROGRESS REPORT

July 28, 2016

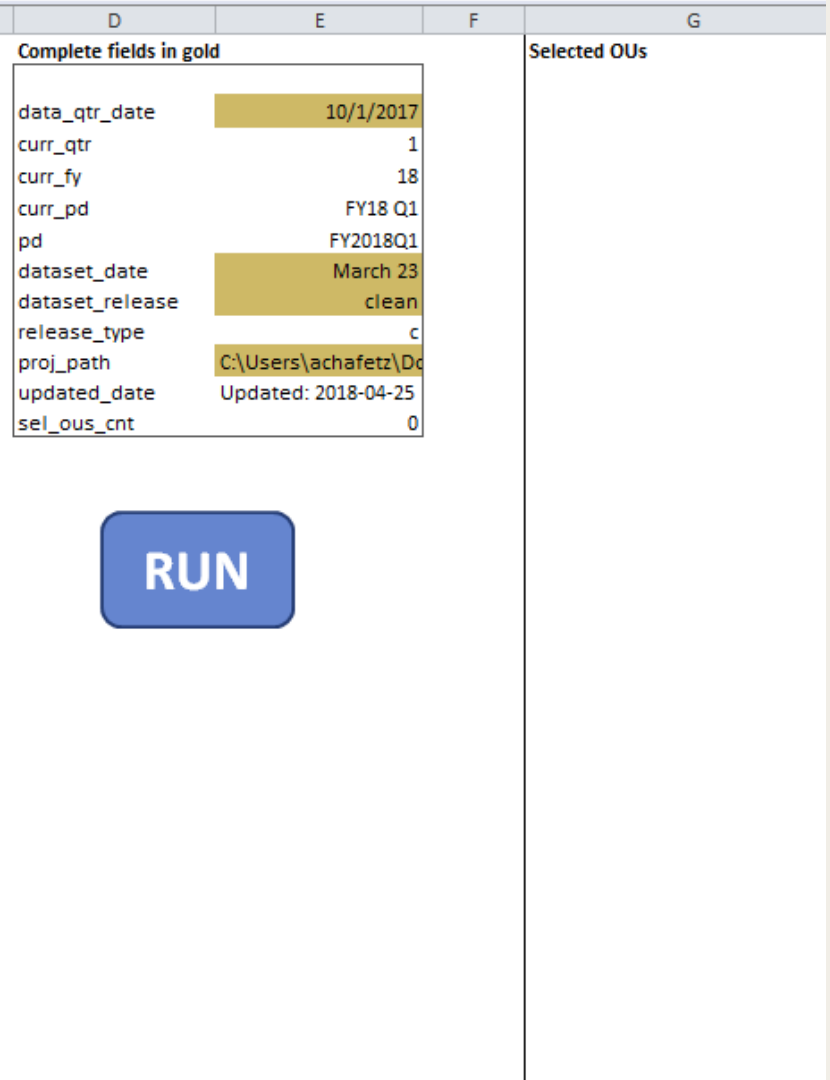
AHC

```
1
2  #load package
3    #library("devtools")
4    #install_github("achafetz/PartnerProgress")
5    library(genPPR)
6
7  #import MER Structured Data to Rds format
8    read_msd("ICPI_MER_Structured_Dataset_PSNU_IM_20180323_v2_1.txt",
9             path = "~/ICPI/Data/",
10            remove_txt = TRUE)
11
12 #generate PPR data - global and country specific
13   genPPR("~/ICPI/Data")
```

Use of R

- Package/function to work in any period, no updating necessary
- Apply official names
- Create TX_NET_NEW & cumulative variable
- Subsetting & aggregation to limit dataset size
- Generate csv for each OU (seconds per OU)
- 1 line of code:

  `genPPR("~/ICPI/Data")`



Automated/Auto-Updating Excel Template

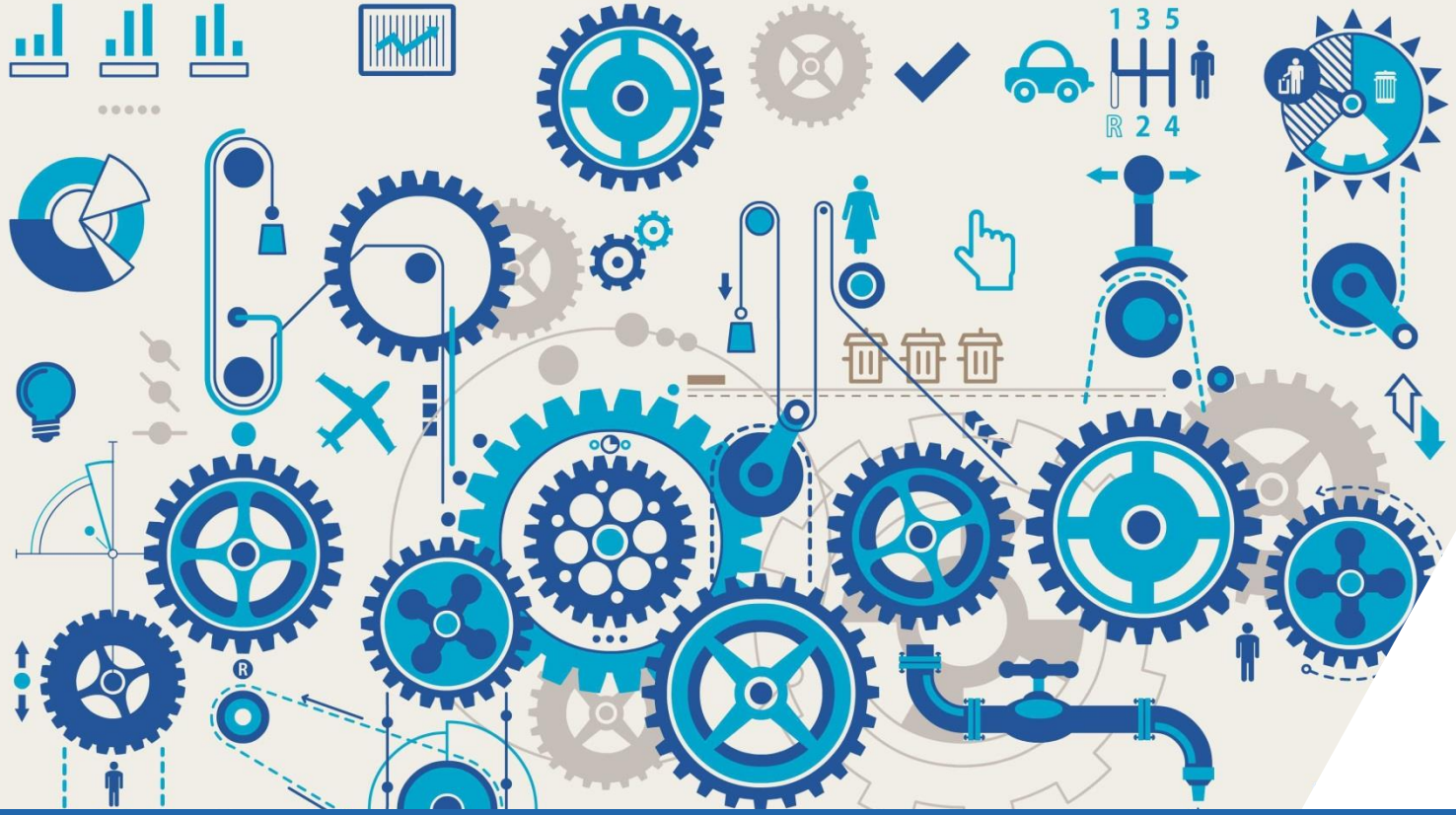
- ~ 90% formulas, 10% hard coded
- Reliance on reference tables and Pivot tables
- Dynamic ranges
- Generic column headers for periods
- Change 3 cells in the tool to update

```
Application.ScreenUpdating = False

'set directory
    Set proj_path = Range("proj_path")
    compl_fldr = proj_path & "Reports\"
' set template
    Set tmplWkbk = ActiveWorkbook
'unhide sheets
    Sheets("RawData").Visible = True
    Sheets("rs").Visible = True
'add dates for saving and release type (initial or clean)
    Sheets("rs").Activate
    Set pd = Range("pd")
    Set release_type = Range("release_type")
'for each OU
    rng = Range("sel_ous_cnt").Value + 1
    Set SelectedOpUnits = Sheets("rs").Range(Cells(2, 7), Cells(rng, 7))

    For Each OpUnit In SelectedOpUnits
        OpUnit_ns = Replace(Replace(OpUnit, " ", ""), "'", "")
    'create OU specific folder
        OUpath = compl_fldr & "PPR_" & OpUnit_ns & pd
        If Len(Dir(OUpath, vbDirectory)) = 0 Then MkDir OUpath
        OUcompl_fldr = OUpath & "\"
    ' open csv
        Workbooks.Open Filename:= _
            proj_path & "ExcelOutput\PPRdata_" & OpUnit & "_" & pd & ".csv"
        Set dataWkbk = ActiveWorkbook
    'count rows to import over
        LastRow = Range("A1").CurrentRegion.Rows.Count
        LastCol = Range("A1").CurrentRegion.Columns.Count
    'copy over rows to bring in from csv to template
        Range(Cells(2, 1), Cells(LastRow, LastCol)).Select
        Selection.Copy
        tmplWkbk.Activate
        Sheets("RawData").Activate
        Range("A2").Select
        ActiveSheet.Paste
    'hide background tabs
        Sheets("RawData").Visible = False
        Sheets("rs").Visible = False
    'refresh all pivot tables
        ActiveWorkbook.RefreshAll
    'open to main page
        Sheets("Info").Select
        ActiveSheet.Unprotect
    'hard code date updated & protect
        Range("C57").Value = "Updated: " & VBA.Format(Now, "yyyy-mm-dd")
        Application.CutCopyMode = False
        Range("C1").Select
        ActiveSheet.Protect DrawingObjects:=True, Contents:=True, Scenarios:=True
        ActiveSheet.EnableSelection = xlNoSelection
```

VBA to populate individual tools

- GUI form to interact with
- No updating to code necessary
- Generates & zips reports by operating unit (seconds per OU)

SHOW & TELL



TOOL BUILDING AUTOMATION

504
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Notes and Attribution

- Prepared for the ICPI/DIV “Show and Tell” on “Tool Building Automation” (DC), April 26, 2018
- Image Sources
  - Cover - http://www.globalfreepress.com/why-implementing-automation-tools-will-change-your-business/
  - Automate the boring stuff - https://www.amazon.com/Automate-Boring-Stuff-Python-Programming/dp/1593275994
  - The New Yorkers - www.newyorker.com/magazine/2016/12/19/our-automated-future
  - Snail - https://pawelurbanek.com/slow-rails-queries
  - Automate all the Things - https://engineering.upside.com/upside-engineering-diary-14-automate-all-the-things-e66ddf4a8637?gi=998fa3523149